An Address

ON

GENERAL PRINCIPLES IN THE TREATMENT OF DISEASES OF THE HEART.

DELIVERED AT A MEETING OF THE HUDDERSFIELD DIVISION OF THE YORKSHIRE BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

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GENTLEMEN,—When I undertook to address a Yorkshire audience I at once thought it wise to select a subject which would appeal to their sense of practical utility, and, rightly or wrongly, I considered that, even by a non-emotional race, no subject would be more likely to receive an attentive hearing than that of the treatment of heart disease. Although you may not be very liable to emotional disturbances of the heart, I believe the common affections of that organ are not at all uncommon in this part of the kingdom, if I be rightly informed by a distinguished Yorkshire physician, Sir Thomas Clifford Allbutt.

In dealing with a subject I always like to look at it through my own spectacles, as I imagine they are specially constructed to take in a wide horizon, and in the treatment of disease I like to get ahead, and, when possible, treat the patient before the disease arrives. This is fortunately often possible in the case of diseases of the heart, though I do not wish you for a moment to think that I am one of those who say "that if they had only been called in an hour sooner they might have prevented the disease or saved the patient." I do not like to cut things quite so fine as that, though in some heart affections a few seconds are often of vast importance. The age of prevention is gradually dawning, and I have no doubt the time will come when questions of health will receive much more consideration than those of disease. When the millennium arrives all our huge hospitals will be empty, and remain only as relics of an ignorant age. The human species will devote as much attention to the production of healthy offspring as is now spent in the rearing of colts, and the human organism will know how to adapt itself to the environment.

No doubt the majority of sudden deaths arise from cardiac failure, but there are very few chronic diseases so amenable to treatment and so compatible with a long life of comfort if judiciously handled as those of the heart. In dealing with the prevention of diseases of the heart there are two very large and wide classes which will require our consideration, namely, those arising from or associated with some acute disease, such as rheumatism, and secondly, those degenerative lesions of the heart and vessels which are so common in later life. Regarding the prevention of congenital heart lesions, I shall at present leave that to those who are well versed in Mendelian laws, or who follow the biometric system, but I may be allowed to express the hope that the State will soon arrive at a sense of its duty, not merely in inculcating the teaching of eugenics, but that it will also adopt some salutary laws in preventing the propagation of the unfit.

Of all the acute diseases which give rise to heart disease rheumatism holds the first place, and shall therefore receive our primary attention. The young, and especially those with any hereditary tendency to rheumatism, should be warmly clothed; they should have daily ablutions, either temperate or cold, according to the susceptibilities of the individual; they should have an abundance of fresh air night and day; they should avoid all overcrowded rooms; there should be sufficient exercise in the open air; there should be at least one free evacuation of the bowels daily; all febrile disturbances, especially sore throats, should receive prompt attention; the condition of the digestive tract and the nature of the in-put require consideration. The family attendant should frequently inculcate the general principles of hygiene, otherwise he will not have much opportunity of preventing rheumatism, as perhaps the majority of parents are so callous, careless, ignorant, or unobservant that large numbers of cases of rheumatism are passed over as "growing pains" until perhaps some serious heart lesion is developed. Preventive work is often very thankless and unremunerative, and those who attempt it are frequently described as faddy, meddlesome alarmists, trying to prevent diseases which might never occur, but you will always have the moral reward of having done your duty.

A wise man leaves as little to chance as he can help. He may undertake any dangerous occupation; but if working in a powder magazine it would be prudent to see that there is no naked light about. So parents who have transmitted a rheumatic tendency to their offspring should feel in duty bound to prevent any explosion. It would as a rule be more profitable for parents to pay their medical attendants for looking after the health of their families rather than for treating their diseases. This does not mean coddling, as a healthy child may undertake any game commensurate with its physical capacity, and, for the moral and physical evolution of a child, the more risky the game the better for the child's character. There should be due recognition of the risks, and all possible precautions taken to prevent accidents; but accidents will occur, and, if due precautions have been taken, even rheumatism might be treated as an accident. If you have failed to prevent the accidental occurrence of rheumatism, then you should be prepared to treat it energetically so as to prevent the subsequent occurrence of heart mischief. Treatment should as far as possible be dietetic and hygienic, because you cannot keep any patient for long periods constantly under the influence of drugs, and the action of drugs can be materially assisted by suitable diet.

In rheumatic fever there is a marked increase in the formation of sarcolactic acid, and all the excretions are very acid; I therefore think it advisable to omit all foods, such as starch and milk, which give rise to the formation of lactic acid in the digestive tract. There is also a great tendency to the formation of fibrin; hence, everything containing lime, such as milk, and all preparations of milk, cheese, gelatine, and animal jellies should be strictly interdicted. Lime also raises the blood pressure, and so increases the strain on the valves. I know that I am here running counter to the general advice of the profession, as with most medical men milk is their sheet anchor in their diet for this disease, but I condemned it in 1886, and I have consistently done so ever since. A great many medical men are like the Yankee, who did not know anything about measles but was death upon fits, so they make no attempt to prevent the rheumatism, or endocarditis and pericarditis; but when the latter occur they are all alert and quite prepared to give you a learned disquisition on the treatment of these two complications. One of the most recent evolutions in the treatment of pericarditis is to wait till there are some recent adhesions and then start with injections of fibrolysin, without any very convincing proof that it is able to resolve even recent scar tissue. Personally I prefer to prevent the adhesions by cutting the lime salts out of the diet, and making free use of decalcifying agents. Milk should not only be interdicted in acute rheumatism, but also in the subsequent treatment of the heart lesions.

An excellent diet for rheumatic fever consists of plenty of hot water, mincemeat and poached egg, pounded chicken, steamed sole, and other nitrogenous articles of diet. If any carbohydrate be required, well-boiled porridge may be given; the silicates in the oatmeal have a decalcifying effect. I am also very fond of syrup of glucose (free from arsenic), which is very palatable when administered with infusion of orange. This, unlike cane and milk sugar, does not readily undergo lactic acid fermentation. Oranges and lemons may be freely used. When the rheumatic attack is over, the diet may be more varied; there may be allowed a fair amount of farinaceous food, and plenty of fruit and vegetables, but milk should still be eliminated. There are two classes of rheumatic patients in whom you will find heart disease—the fat, flabby, lethargic, and somewhat phlegmatic individuals who like their food and do not care for much exercise, and, on the other hand, the very spare, active, rather neurotic individuals who do not over-indulge in the good things of this life; this latter class wears much better, and this knowledge should help you in directing your diet, which should be light and nutritious, with a fair allowance

of meat, fruit, and vegetables, and not much starchy food. The food should be merely sufficient in quality and quantity to maintain healthy nutrition; if the patient is laying on fat, the food is too abundant. I am in the habit of advising patients with mitral lesions to drink as little fluid as possible—not more than 2 pints a day—and if the tissues be at all flabby, or there be any venous turgescence, I frequently reduce them to half this amount. All fluids drunk have to pass through the right side of the heart before they are excreted (except what is carried off by purgation), and any excessive amount only handicaps it without producing any benefit. I know that some physicians like to drench their patients, with the view of washing away effete products, but it is a much wiser plan to keep the patient on a light dry diet, and not produce more effete products than can be excreted without flushing. The regular use of all alcoholic drinks should be strictly interdicted, tea and coffee with cream may be left to the discretion of the patient, except so far as the quantity of fluid is concerned. Lemon squash makes an excellent drink. Tobacco should be forbidden. If there be any tendency to oedema the salt should be cut down or eliminated from the diet.

HYGIENIC.

During the endocarditis there should be prolonged rest in bed, and the blood pressure kept as low as possible. When the acute cardiac condition has passed and compensation is fairly established then a moderate amount of exercise is highly beneficial. The mode of life should be prophylactic against attacks of rheumatism. The patient should be warmly clothed with flannel next the skin, and he should avoid all vicissitudes of climate. When at any time the feet are damp or the body wet and chilled the clothing should be changed and the surface circulation re-established as quickly as possible. The action of the skin should be maintained, and for this purpose daily ablutions are necessary. A morning bath at a temperature from 60° to 90° F., according to the susceptibility of the patient, with coarse friction afterwards, will be found very advantageous. The combustion within the system should be as thorough as possible, and with this end in view the patient should avoid all close, heated atmospheres, and live as much as possible in the open air. A warm dry climate is best. He should not live at too great an elevation from the sea level so as to obviate the effects of a rarefied atmosphere, which leads to pulmonary congestion, and further tasks an overworked right ventricle. The life should be at a low level, not merely as far as the heart's surface is concerned, but in every other respect, and free from all mental worry and care. The patient should be enjoined to pursue the even tenor of his way in a happy and contented frame of mind, and simple pleasurable emotions should not be forbidden. Marriage cannot be recommended, and especially in the case of a female a timely counsel against wedlock and its usual results will be advisable. In my experience advice of this kind is very seldom taken, but at any rate I think the propagation of the species should be left to those more likely to improve the breed.

Short of actual fatigue, a fair amount of exercise, even to the extent of hill-climbing, will prove highly beneficial by favouring the circulation, increasing the combustion, and improving the general nutrition. The skeletal muscles contain about a fourth of the whole blood of the body, and exercise greatly increases the circulation through them and so increases the capillary area. On the other hand, if they be not used they require very little nutrition, comparatively little blood passes through them, as it tends to flow in the direction of least resistance; thus the capillary area is diminished and the general arterial tension raised. When, however, any indication of failure of compensation in the right side of the heart occurs, there must be no fashionable treatment by graduated exercise on a mountain side, but the excellent old-fashioned restorative of rest in bed must be at once adopted. If the disease be in the early stage, a few days' rest, a dry diet, and a cholagogue cathartic may be all that are required to restore the *status quo ante*. If a long stay in bed be deemed advisable, then massage should be substituted for the loss of muscular exercise. This improves the circulation in the muscles, increases the quantity of blood in the systemic vessels, and so indirectly lessens the pulmonary engorgement, and it hastens the return venous current. The Nauheim treatment is best suited for patients with imaginary heart lesions and for those who have been gorging too freely.

REST.

During the acute stage of rheumatism and endocarditis absolute rest in bed is essential, but you must not imagine that because the patient's systemic muscles are resting therefore the heart has got very little to do. It is true that it has only got to pump the blood along the level, but if the blood pressure be maintained at a high level from the retention of effete materials or any other cause then the heart has got too much to do. Endocarditis attacks the valves of the left side of the heart much more frequently than those of the right, not because they are more vulnerable but because they are subjected to greater stress, and the parts of the mitral and aortic valves which are brought into most violent apposition during their closure are the parts first affected, hence the rows of beaded vegetations due to proliferation of the subendothelial layer appear on the auricular surface of the mitral valve and on the ventricular surface of the aortic valve. Rest in bed in a case of rheumatic fever is neither sufficient to prevent endocarditis nor to cure it, but if the blood pressure be kept at as low an ebb as is compatible with life, and no sudden strain be thrown on the heart the endocarditis may be prevented in numerous cases, and when it does occur the cure may be thus hastened or the ulterior effects may be very much mitigated. To keep the blood pressure low lime salts should be eliminated from the diet, decalcifying agents should be used, the skin and bowels should be kept freely acting, and of course the rheumatism should be treated. The rest in bed should be continued for a lengthened period—at any rate, until convalescence is well established—but there is no object in continuing it for an indefinite period, as, when the patient is feeling quite well, he is apt to chafe under the restrictions, and the heart is not undergoing the necessary training to fit it for the increased work of the future. The return to active exercise should be a very gradual process, and it is well at first to have the systemic muscles subjected to passive exercise, resisted movements, massage, and, perhaps, the Aix douche; respiratory exercises are useful aids to the right side of the heart. Moderate exercise has only a slight effect in raising the blood pressure, and it afterwards lowers it by increasing the circulation in the muscle. So when the acute stage is passed a gradual training of the systemic and cardiac muscles is an advantage. In going upstairs or making an ascent no doubt the work of the heart is increased, but the chief work has to be performed by the systemic muscles, and as there is a great demand for oxidation the chief stress is thrown on the right side of the heart, hence the necessity for a little preliminary training with respiratory exercises.

The heart mischief following diphtheria, and to a less extent after typhoid fever, is myocardial rather than endocardial. In both these affections the blood pressure is very low, and hence the valves are not subjected to any great stress. In diphtheria the heart's action may be slow when the myocardium is much involved, or it may be short, quick, and frequent when there is neuritis affecting the pneumogastrics. In both these classes the heart may be much dilated, and in such cases cardiac tonics, more especially the lime salts, are demanded. In severe cases of typhoid fever the right side of the heart is very apt to become dilated, but owing to the usual large supply of milk in this disease the lime salts are not, as a rule, deficient, and this, I think, may account for the fact that dilatation of the heart is much less common than it is in diphtheria. The injudicious supply of milk after the necessity for its use has passed may also, to some extent, explain the fact that sclerotic changes in the blood vessels are not at all uncommon after typhoid fever.

Cardiac paralysis with great dilatation of the heart is a marked feature in muscarine poisoning. In scarlet fever there may be myocarditis with dilatation of the heart; but as a rule, when heart mischief occurs in this disease, it is endocardial and is associated with rheumatism or septic infection. In influenza there is often a disturbance in the innervation of the heart, and probably often a neuritis affecting the pneumogastric and cardiac nerves. In whooping-cough the right side is chiefly affected from

mechanical causes; cardiac tonics in this case should be combined with atropine.

Infective endocarditis may affect either side of the heart, and as a rule the organisms find a nidus in some old damaged valve; but this is not necessarily the case, and I have seen the infective patch on the right side of the septum ventriculorum. If possible the pathogenic organism should be isolated and a vaccine prepared. In such cases embolic lesions are very common, and thrombosis may occur, though this is more frequent in old, degenerate vessels; in these cases the tendency to blood clotting should be lessened by the free administration of citrate of sodium, unless there be a tendency to petechial haemorrhages, in which case lime salts should be administered.

In shock the blood pressure should be raised by saline injections and by small and repeated doses of adrenalin injected into the veins. Dr. Blair Bell has recently shown the great value of pituitary gland in such cases. In syncope the patient should be suspended by the feet, or at least the head should be lowered and the lower part of the body raised, so as to keep the brain supplied with blood and to raise the diastolic tension in the right side of the heart. Heat relaxes the peripheral vessels and lowers the blood pressure, while cold has the opposite effect; both agents can be used in treatment.

EXERCISE.

In the *Liverpool Medico-Chirurgical Journal*, 1888, in an article on the Oertel system, I dealt very fully with the question of exercise in the treatment of diseases of the heart, and, as I have in no way altered my views on this subject since, some of the conclusions at which I arrived may be here appropriately stated. I showed that the treatment was not new, except in the extreme rigour of its details and in the wide field of utility claimed for it by Dr. Oertel. Sir Dominic Corrigan, in his classic paper on Aortic Regurgitation, in the *Edinburgh Medical Journal*, 1832, recommended in this disease

> a generous and sufficient diet of animal and vegetable food; at the same time, that an abstinence from those beverages, such as malt liquors, which increase much the mass of the fluids, should be enjoined. It is not at all necessary that the patient should be prohibited from attending to his business or profession, provided that he do not devote to it so much attention as to produce debility.

Dr. Stokes described his method of treating fatty degeneration of the heart as follows:[1]

> 1. We must train the patient gradually, but steadily, to the giving up of all luxurious habits. He must adopt early hours, and pursue a system of graduated muscular exercise; and it will often happen that, after perseverance in this system, the patient will be enabled to take an amount of exercise with pleasure and advantage which at first was totally impossible owing to the difficulty of breathing which followed exertion. This treatment by muscular exercise is obviously more proper in younger persons than in those advanced in life. The symptoms of debility of the heart are often removable by a regulated course of gymnastics, or by pedestrian exercise, even in mountainous countries such as Switzerland or the Highlands of Scotland or Ireland. We may often observe in such persons the occurrence of what is commonly known as "getting the second wind," that is to say, during the first period of the day the patient suffers from dyspnoea and palpitation to an extreme degree, but by persevering, without over-exertion or after a short rest, he can finish his day's work, and even ascend high mountains with facility. In those advanced in life, as has been remarked, the frequent complications, with atheromatous disease of the aorta and affections of the liver and lungs, must make us more cautious in recommending the course now specified.
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> 2. We should advise the use of such a régime as will tend to nourish without increasing the bulk of the system, and especially the growth of fat. The patient may use fresh meat of any kind freely, but should avoid taking an over-quantity at any particular meal. He should abstain from all articles of food which are oleaginous, and probably also the white meats. He must be forbidden the use of soups or much milk, and should partake of vegetables sparingly. His use of fluids should also be as sparing as possible. The best drink would be water, with or without a little brandy or wine, but soda water or any alkaline drinks must be inhibited, and he should accustom himself to the daily use of the cold shower bath, followed by strong friction over the whole body.
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> 3. We can do little in this disease by mere medicines, but great attention should be paid to preserve a free state of the bowels, and from time to time the patient may use a mercurial, followed by a warm and tonic cathartic. In young patients, who approach to the anaemic state, the preparations of iron, cautiously exhibited, will be found useful.
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> But in the confirmed cases of persons advanced in life, specially where the patients have never exceeded in the use of alcohol, and, above all, where the pulse is slow, with a tendency to faintness or to attacks of pseudo-apoplexy, our great reliance must be in the free use of wine or brandy, for by such a proceeding alone can we hope to preserve or prolong the patient's life. Long fasting must be inhibited, and all fatigue or mental annoyance avoided. Such persons should always have some diffusible stimulant at hand to which they may have resource on any appearance of syncope, or of the cerebral sensations premonitory of an attack. They should be much in the open air, and, if possible, reside in a locality which combines the bracing effects of mountain and sea air; and as it is above all things necessary that their attention should be diverted from the state of the heart, the routine and too often mistaken treatment of cardiac disease must be absolutely avoided.

This advice of Dr. Stokes is, on the whole, very sound, though I cannot admit that the free exhibition of alcohol which he recommends is ever necessary. His views afford a wonderfully hopeful contrast to the following *laissez-faire* advice culled from the most recent work on diseases of the heart:

> In treating cardio-sclerosis it should always be borne in mind that the condition is progressive and we cannot stay it. It usually proceeds very slowly, so that a man may show signs of arterial degeneration and irregularity of the heart from the age of 50 to 60 years, but may live in fair health for twenty years afterwards, ending his days without any marked failure of the heart. The early stages are generally recognized in the examination of the patient for some other condition, when the distinctive changes may be found in the thickened arteries, high blood-pressure, and the occasional occurrence of an extra systole. Medical men often attempt to combat these signs by some treatment more or less energetic, and as many people are frightened by the evidences of advancing years they readily comply with the proposals that are supposed to put back the hands of time; hence the great variety of drugs, methods, and modes of life we find current.

Personally I entertain very hopeful views on the prevention and treatment of cardio-sclerotic changes, and I shall have to speak of the latter part of this subject later on; we are here not much more than considering the prevention of those degenerations of which Stokes outlined the treatment. Most practical physicians recommend moderately active exercise for cases of heart disease which are fitted for such. It is only the inexperienced who frighten their patients with the danger of sudden death. Of course, no case of heart disease must be looked upon lightly, or treated in the *laissez-faire* principle; its nature, prognosis, and treatment must be carefully studied, and our directions to the patient must be clear and intelligible. In dealing with a serious lesion we must not make the patient think that it is a matter of no importance, but rather impress him with the necessity of attending to our instructions. If medical men would generally adhere to this rule I am convinced there would be fewer sudden deaths. I have often heard "the fear of frightening the patient" given as a reason for trying to avoid or delay a consultation, but I have never yet met a patient who was frightened by his medical attendant taking an intelligent interest in his case, or wishing to share the responsibility.

Chronic heart lesions of all kinds are extremely amenable to treatment, and exercise which implies both physical and vital considerations is of great importance.

Functional activity is necessary for the well-being and healthy action of every part of the body, no less for muscular structure than for anything else. No doubt the heart has functional activity under all circumstances, but it is an activity which is frequently interfered with. Nothing leads more readily to arterial degenerative changes than a life of luxury and indolence, with the retention of effete materials in the blood. A life of activity, which leads to the oxidation of these waste products and accelerates their removal from the blood, rather tends to lessen the work of the heart by relieving the peripheral resistance. But, if the exercise be excessive, there is a demand for increased work on the part of the heart, which leads to hypertrophy of that organ as well as of the muscles generally. In the first case, by the retention of effete materials with the production of gout or granular kidney, you raise the arterial tension and increase the work of the heart, which leads to cardiac hypertrophy. In the second, the heart's energy is called forth, and the blood pressure is raised from a central cause. But however this undue hypertrophy is induced, it is eventually followed by degenerative changes. It is not your athlete or your hard-worked labourer, any more than your gouty

or kidney patient, who always lives the longest. You do not want to implant a "bullock's heart" in the human chest if you can help it; such compensation may be, and no doubt often is, necessary, but it is the lesser of two evils, and is certain, sooner or later, to work mischief.

I can strongly recommend to your consideration Dr. Oertel's work;[2] also my article on the same subject in the *Liverpool Medico-Chirurgical Journal*, July, 1888. The Oertel treatment was both vigorous and rigorous, and where there was no advanced degenerative changes in the cardiac muscle proved highly beneficial. Dr. Oertel says:

> The immediate causes which induce these disorders lie either in the pumping apparatus itself, in the heart muscle, in its weak contractions and insufficient propulsive power, in imperfect closure of its valves and narrowing of its orifices, or else in one or the other tubular system, when, from restriction of its space, it can no longer take up the quantity of fluid that it should. Such causes are *weakness of the heart muscle, fatty heart, general obesity, and valvular failure of the left heart (mitral or aortic)*. To these may be added *derangement of the pulmonary circulation* from emphysema, chronic interstitial pneumonia and bronchiectasis, various curvatures of the spine (scoliosis, kyphosis), and pressure of pleuritic exudations and tumours, either developing within the thorax or invading it from without.

His theoretical indications for the restoration of the hydrostatic balance which is deranged in cases of cardiac failure arising in all forms of heart disease are:

> Diminution of the blood volume, with increase of its albumen and general improvement; reduction of the cardiac fat and strengthening of the cardiac muscle: equalization of the arterial and venous systems; unloading of the kidneys and removal of their chronic hyperaemia and inflammation; unloading of the pulmonary vessels (checking the hyperplasia of the interstitial connective tissue, reducing the ectatic alveolar capillary network, and increasing the breathing space); finally, removal of the fat deposited in the subcutaneous tissue and in the thoracic and abdominal cavities, and overcoming the tendency to excessive fat formation generally.

He effects his object by increasing the watery excretions and limiting the supply of fluid, so that the amount taken into the system shall be rather less than that excreted, and consequently the excess accumulated in the body will be drawn upon and gradually got rid of. For the removal of the water he depends chiefly on the lungs and skin, which he stimulates to active excretion by the hot-air bath, and especially by mountain climbing. He reduces to a minimum both the drink and the fluid portion of the food, while he gives a diet rich in proteids, so as to make up for the continued loss by albuminuria, and to facilitate the rapid combustion of the stored-up fat. When dehydration has taken place to the necessary extent, and the hydrostatic balance is restored, then this condition is to be maintained by long daily walks, and a limitation of the fluids taken to the minimum necessary for tissue changes. The reduction of the water improves the consistence of the blood and relatively increases its solids, and it is also improved by the highly albuminous diet. The unloading of the pulmonary vessels and the expansion of the lungs attained by mountain climbing favours the distension of previously collapsed air cells, and encourages the oxidation of the blood. The strengthening of the cardiac muscles and the reduction of its infiltrated fat are effected by similar agencies.

He deals very exhaustively with the methods of fat reduction, as obesity is a frequent source of circulatory derangement, especially when there is an accumulation of fat upon the heart impeding its functions. When the obesity is merely plethoric, without any circulatory disturbances, it is sufficient to put the patient on a prescribed diet, and order him to lead a life of activity and hard work; but where there is also derangement of the circulation, means to restore the hydrostatic balance and improve the cardiac nutrition must be adopted.

His diet for reducing fat, unlike the Harvey-Banting and Ebstein methods, consists of limitations rather than exclusions in the supply, and he prefers carbohydrates to fats. He shows that work, so long as it is not so severe as to give rise to dyspnoea, does not increase the amount of albumen destruction, but, on the other hand, increased muscular function leads to hypertrophy, with consequent storing up of albumen in the muscular elements, and so there is a demand for an increased supply. In contrast to albumen destruction, fat destruction is considerably increased by work. Personally I should take very kindly to one of his prescriptions: "Two or three times a year long, mountainous tours must be made, according to the patient's capacity for work, which must be neither over- nor under-valued." Whatever one may think of the practical value of the Oertel treatment, we must admire the boldness of conception, and the indefatigable energy with which it was carried out, together with the enormous number of scientific observations which Dr. Oertel has placed on record. The first patient, Dr. N., undertook most arduous mountain ascents, frequently climbing mountains from 1,000 to 1,500 metres above the valley level in about the same time as these feats are accomplished by healthy individuals. The difficulty of this task may be easily surmised when it is stated that his vital capacity only ranged from 64.0 to 86.4 cub. in.

> His pulse, once very frequent, 112 to 120 per minute, or sinking to 54 or even 48, irregular, jerky, and small, was now rhythmical, slow, regular (80 to 84 per minute), full, powerful and not easily compressed. Before treatment the patient's circumference was 49.6 in. and his weight 171.6 lb.; these figures were lowered after a year's treatment to 37 in. and 116.6 lb. The fat of the subcutaneous tissue was everywhere reduced to an insignificant layer, and the skin could be drawn in thin folds over the strongly-developed muscles, which felt hard and firm on each contraction.

Personally I do not care for any routine system, because you are apt to lose the individual in generalities, and in my opinion you should always treat the individual rather than his disease. It is here not a question of failing to see the wood for the trees, but of neglecting the proper care necessary for the individual tree. There is no doubt in my mind of the great value of exercise in heart disease, but it has its limitations, and there is no better training for the respiratory and cardiac systems than that of mountain-climbing. Golf, curling, and bowls are excellent restoratives, if not accompanied by too much Scotch whisky, for old gentlemen with not much reserve energy; but if you wish to improve the respiration and strengthen the right side of the heart take to mountain-climbing. In this form of exercise the precautions which I wish to emphasize are that the training must be gradual. You must produce no marked dyspnoea, and if the vital capacity be not up to the normal or there be any degenerative changes in the cardiac muscle, you had better not get higher than 4,000 or 5,000 ft. above the sea level. Cases with defective pulmonary capacity and an overloaded venous system are predisposed to dilatation of the right side of the heart. If, therefore, any one sends such patients to exercise in climbing steep mountain ascents without preliminary training, he may find, when too late, that his advice has been followed by irremediable dilatation of the right ventricle. Patients with degenerative changes in the cardiac muscle, which may even not have been previously detected, are very liable to fatal congestion of the lungs when suddenly transported to very high altitudes, even though there has been no exertion.

In a large proportion of cases of heart disease there is no marked disturbance in the hydrostatic balance until after failure of compensation—which may have been perfect for many years—subsequent to degenerative changes. The heart-muscle is not then in a condition to respond to any graduated exercises, and requires to have its work lessened to a minimum by complete repose of the body in bed. In some cases the nutrition of the body, and consequently of the heart, may be improved by massage, but there must be no acute straining of the exhausted ventricular walls by active exercise. In some cases of fatty infiltration there is no proper compensation; the enlargement of the heart is due to fat and not to muscle. In such cases we must get rid of the fat by increased oxidation, and improve the nutrition and effective force of the cardiac muscle by a highly nitrogenous diet and a small supply of liquids.

When a patient has got heart disease it is our duty to adopt such means as will maintain compensation for the longest possible period of time. This will not always, or even generally, be effected by trying to make him a powerfully athletic man. The compensation must be sufficient but not excessive, and there is no advantage to be gained by unduly testing its sufficiency, or placing the patient under conditions which would tend to its excessive development. The patient must be taught to live metaphorically, and in many cases physically, at a low level. He must be content with healthy existence

rather than active life. His life need not be that of the sloth or dullard, but it will not always be well to test to their extreme limits his physical or mental capacity.

The effects of mountain-climbing may be to a large extent summed up in the word "oxidation." Your obese man does not oxidize all the carbonaceous matter which he takes in. He may at first have normal oxidation, but the food supply is excessive. When the heart becomes implicated the oxidation lessens, and so the disproportion between the "input and output" increases. Your portly dame may owe her excessive corpulence to tight lacing in youth. With advancing years, when her marketable value has been determined or her matrimonial chances have lapsed, she removes the restrictions on diet which she formerly exercised, and then her small thoracic capacity is not able to supply sufficient oxygen to burn off all the hydrocarbons and carbohydrates taken in. In mitral stenosis and mitral regurgitation there are mechanical impediments to the onward course of the circulation, hence the tissues are not supplied with a sufficient amount of oxygen. The lung capacity may be at first perfect, but from damming back of the blood pulmonary changes gradually take place, and from the diminished vital capacity oxidation is further interfered with; and as imperfectly oxidized blood will not, under any circumstances, flow freely through the lungs, the task of the right ventricle is greatly enhanced. The same may be said where there is compression or destruction of lung tissue, as in scoliosis, kyphosis, great pleural effusion, emphysema, and intrathoracic growths. In all these cases great good may be effected by diminishing the supply of fluid, thus lessening the amount of blood in circulation, increasing its density, and relatively augmenting its oxidizable material. Breathing condensed air will also increase the amount of oxygen, but the same can scarcely be said of the atmosphere at high altitudes, where its rarity is not counterbalanced by any equivalent expansion of the chest. In obesity with fatty infiltration, where the thoracic capacity is intact, the respiratory activity induced by mountain-climbing will effect the necessary oxidation when the fluid is diminished. In anaemia the haemoglobin is defective, and hence the oxygen-carrying power of the blood is diminished, and there is a tendency to the deposition of fat. In the majority of these cases there is a great quantity of fluid in the system, with high arterial tension. These conditions can be relieved by diminishing the supply of fluid, and hastening its excretion by mountain-climbing. The enlarged flabby and fatty heart is frequently not able to respond to this demand for extra work. The early treatment of profound anaemia can usually be best carried out in bed, while we may reserve the mountain-climbing for the completion of the cure.

As to the details of treatment, we must first consider the limitation in the amount of fluid imbibed. This is an important element in the treatment of all forms of heart disease. Every drop of water, whether in liquids or solids, which is taken into the stomach, with the exception of that part which passes away in the faeces, must pass through the right side of the heart before it is excreted. Thus any excessive amount of fluid must increase the work of the heart, lessen the density of the blood, and relatively diminish its oxygen-carrying power. When the circulation is vigorous, and especially if there be inordinate high arterial tension, it is remarkable what an enormous amount of fluid can be consumed without any marked interference with the density of the blood, the excretion takes place almost as rapidly as the absorption from the stomach and bowels, and there is no retention of the fluid in the system. But even in health these two processes do not always go on *pari passu*, and there is a considerable retention of fluid in the veins, if not also in the tissues. The veins are capable of holding all the blood in the body, and so at any time a considerable augmentation of their contents may take place without this condition being noticed, or any increased transudation taking place into the tissues. The excretion of urine frequently varies from day to day, irrespective of the amount of fluid taken in, and anything which raises the arterial tension, such as hard mental work, will act as a powerful diuretic, without any additional fluid supply. To see what an enormous amount of fluid can be disposed of in health, witness the typical German at his lager beer. When these men keep on soaking after the central pump begins to fail, Oertel's treatment will prove a valuable means of saving them from drowning in their own juice. Witness also the prescriptions of some physicians at mineral-water resorts to see the amount of fluid which may be consumed in cases of comparative health. These patients are treated as dirty sewers which require to be thoroughly flushed. When, however, a patient with a weak heart is exposed to this routine treatment the effects are not encouraging, though it is generally discovered that "the case is not a suitable one for the cure" before irremediable mischief has been done.

When we have to deal with a feeble heart, or when from any cause there is obstruction to the pulmonary circulation, then absorption takes place much more readily than the fluid can pass into the arterial system, and so there is a tendency to gradually-increasing disturbance in the hydrostatic balance. In these cases diuretics are comparatively useless: the difficulty is in getting the blood as far as the left ventricle, not in getting it through the kidneys. We keep the supply below the amount excreted by all channels, so as to restore the hydrostatic balance and maintain that condition when established. Whatever be the amount excreted, if the supply from all sources be still less dehydration of the body must take place, and the greater the disparity between these amounts the more rapid the dehydration. In cases of marked dropsy I have often seen the urine quickly increase when the supply of fluids was cut off. I have even kept such patients without any water, except that contained in a dry diet, for even a week with the most beneficial results. If there be any danger of the depletion of the veins going on much more rapidly than the absorption of the fluid from the interstices of the tissues, this can be obviated by the gentle pressure of an elastic bandage applied to the oedematous lower extremities. All watery excretions, with the exception of the exhalations from the lungs, takes place from the arterial rather than the venous blood. The water of the urine is excreted from the arterial capillaries in the Malpighian corpuscles. In purgation the water is excreted from the intestinal capillaries, and perhaps also from the small venous radicles. The sweat is excreted from the capillaries supplying the sweat glands and ducts. In general anasarca free perspiration is often difficult to induce, as the sweat glands and ducts are compressed and the blood driven away from the surface; before this effused fluid can be got rid of by sweating, it has to be absorbed into the veins, pass through the pulmonary and systemic circulations, until it reaches the capillaries supplying the sweat glands. From the foregoing considerations it follows that, when there is a disturbance in the hydrostatic balance, with accumulation of blood in the veins, any method to reduce the excess of fluid in the veins, except that of increasing the pulmonary exhalations and diminishing the fluid supply, must act indirectly. Even phlebotomy drains the blood in the course of the circulation directly from the arterial system, and only indirectly depletes the main veins and pulmonary circuit. Therefore, in all cases of disturbed hydrostatic balance our first object should be to diminish the fluid supply, and allow the excess to be disposed of through the ordinary channels. You should give a salt-free diet, as sodium chloride has a high osmotic equivalent, and holds the fluid in the tissues.

The dehydration should be carried sufficiently, but not too far. The amount of dehydration depends on the difference between the total supply of water and the amount excreted.

Pulmonary Exhalations.—Increased watery exhalations from the lungs primarily depletes the venous system. In order to increase this excretion the atmosphere breathed must be *warm and dry*, so as to be capable of freely absorbing moisture. The Turkish bath provides us with this kind of atmosphere in a prominent degree; but, on the other hand, the great heat of the Turkish bath does not favour oxidation or increase the respiratory activity, while at the same time it has an even greater effect in increasing the watery excretion of the skin than that of the lungs. Therefore the arterial system is depleted to a greater extent than the veins; this dehydration of the tissues, increases thirst, and the fluid supplied tends to maintain the previous condition of the veins. The depletion of the venous system through exhalation of the lungs is best carried out in a *warm dry* atmosphere, of a temperature

say, between 60° and 70° F., under such conditions of active exercise—say, mountain-climbing—as will augment the respiratory activity and increase oxidation.

Sweating.—Increased watery discharge from the skin depletes the capillaries, and through them the tissues; therefore its value will vary much in different cases. In general obesity with fatty infiltration of the heart, when there is a sodden condition of the tissues and no mechanical obstruction to the passage of blood through the lungs, it will prove of great service. In the big, dilated hearts of beer drinkers it is valuable, but cardiac tonics should also be employed. The Turkish bath may be used, but sweating is best induced by mountain-climbing, which improves respiration and oxidation, and the exercise hastens on the circulation in the veins. Sweating can be recommended in all cases where there is a free pulmonary circulation, such as in cases of general obesity, fatty infiltration of the heart, and weakness of the myocardium, but it is of very little value where there is pulmonic obstruction, such as in cases of mitral stenosis and incompetency, emphysema, intrathoracic tumours, disease of the pulmonic or tricuspid valve, etc. Its value in the various forms of dropsy will be found fully discussed in my paper on The Pathology and Treatment of Dropsy, in the *Liverpool Medico-Chirurgical Journal*, July, 1886.

Purgation.—Profuse watery evacuations from the bowels is too depressing a method of treatment to be commended; moreover, it primarily depletes the arterial system, and any great and sudden lowering of arterial pressure in cases of weak heart might have a disastrous consequence.

Diuresis.—The renal excretion in these cases is very variable. In weak or fatty hearts it is scanty, owing to the feeble propulsive power of the central pump, with diminished velocity of the blood; in these cases it is useful to increase the discharge by such nerve and vascular tonics as caffeine and strychnine. In aortic and mitral stenosis and in aortic incompetency the arterial tension in the early stages is usually high, and the urinary excretion free; in the later stages, where there is failure in compensation, digitalis and squills may be given for short periods. In mitral regurgitation digitalis is, as a rule, the best diuretic. In affections of the pulmonic and tricuspid valves cardiac tonics are of much less value than in diseases of the left side of the heart. Here their use must be supplemented by great diminution in the amount of fluid supplied, and by *rest in bed*. Where the obstruction to the pulmonary circulation lies in the lungs, such as in emphysema, diuretics are comparatively valueless, and perhaps the best in these cases are those that act directly on the kidney, such as the caffeine and theobromine series. The presence of albuminuria, which is so common in all cases of cardiac failure, depends on the increased static pressure and diminished velocity of the blood in the Malpighian corpuscles. It is an indication of the state of the circulation rather than the condition of the kidneys, and need cause no apprehension. It is not the albumen which one excretes, but the effete material which he retains in his system, that works the mischief. Any treatment which restores the hydrostatic balance will lessen or cure the albuminuria.

Baths.—All kinds of baths tend to keep the skin clean and help to improve the peripheral circulation; warm baths lower and cold baths raise the blood pressure, at least temporarily. The electric light bath, especially if followed by massage or a douche, has a beneficial effect on the circulation in the periphery. The carbonic acid bath has a gentle stimulating effect; the Nauheim baths, with passive and active exercises, are often useful preliminary training for more healthful out-door work. These baths are not suited for cases with pulmonary obstruction. The Turkish bath, followed by massage and a limitation in the amount of fluid imbibed, is often beneficial where there is no advanced degenerative changes in the blood vessels.

MEDICINAL.

I do not intend to say much about drugs, because I think such remedies should only be used when necessary and always under strict medical supervision. Unfortunately for the public they have taken to drugging themselves with all manner of noxious tablets, and I know that an enormous amount of mischief is caused by the indiscriminate use of cardiac tonics. The continued high arterial tension which is thus long maintained often works irreparable mischief in the aorta. It is better for a jaded horse to lighten his load than apply the whip, so remedies which lessen the work of the heart are often more effective than cardiac tonics. When the balance between the two sides of the heart is effectively maintained, drugs are, as a rule, unnecessary, except to regulate the blood pressure, and, when this is high, decalcifying agents and moderate cathartics answer best. When there is cardiac failure, tonics such as digitalis, squills, strophanthus, caffeine, strychnine, and the lime salts must be used, but as soon as compensation is restored their use should be discontinued. If there be any tendency to thrombosis or embolism, decalcifying agents, such as phosphoric and citric acids and their soluble salts, should be employed. In cases of cardiac thrombosis and pulmonic embolism where the symptoms are very urgent strong ammonia should be freely used; a mixture of 5 minims each of liquor ammoniae fort. and spiritus chloroformi in a wineglassful of barley water every hour or half-hour is an effective remedy. In mitral stenosis you not infrequently get a free haemoptysis, which in this case is the best form of blood-letting, and should not be too quickly checked. In 1886 I condemned the use of all astringents in such cases, and strongly advocated the employment of nitroglycerine and atropine. It is rather amusing to me to see the rediscovery of this treatment recently in the medical journals. In all spasmodic affections, such as angina pectoris, the best remedies are nitroglycerine, morphine, atropine, nitrite of amyl, iodide of ethyl, and other preparations of iodine. When the blood pressure is very high, there are a whole host of remedies at our command in addition to those which I have mentioned for the treatment of spasmodic or painful affections, but we may specially specify decalcifying agents, the benzoates, the hippurates, iodine, and thyroid.

The Lime Salts.—So far as we at present know, the presence of free calcium ions in the blood and tissues is necessary for effective muscular contraction, and now that my friend, Dr. Blair Bell, has given us an excellent method for estimating the free calcium in the blood there is no reason for any one being ignorant on the subject. The calcium ions increase the force of the muscular contraction but diminish muscular irritability and (according to Loeb) inhibit the rhythmical contraction of muscle fibres, which he thinks does not depend on lessened excitability, but in some chemical combination of the calcium ions in the muscle which renders its rhythmical contraction more difficult or impossible. I am still of opinion that the calcium ions lessen irritability of the heart muscle, and Blair Bell has shown that when a solution of calcium chloride was injected into the veins of a rabbit the rhythmical contraction continued, the amplitude of the contractions increased but their frequency diminished, and when a poisonous dose was used the heart finally ceased in systole. In many febrile affections the calcium salts are readily thrown out of the blood, hence a frequently renewed supply is demanded; but unfortunately, long after the demand is satisfied the supply continues, owing to the indiscriminate use of milk in all the ills to which flesh is heir. Nowadays milk is not confined to babes and sucklings, but has been extended to those of riper years. This inordinate supply of lime salts increases the viscosity of the blood, raises the blood pressure, hastens the formation of scar tissue, and leads to degenerative changes in the vessels and heart. When there is an excess of calcium ions in the blood, the cardiac contractions are apt to become infrequent, slow, and effective, and owing to the greater muscularity of the left ventricle its irritability becomes less than that of the right, and the rhythmicity of the latter being greater it tends to act in advance; hence we get irregularities and intermissions. A similar inhibition is also often induced by digitalis, which seems not only to inhibit the action of the heart but also to disturb the balance of blood pressure in the two sides. When the pulse becomes very slow, as in Stokes-Adams disease, it is well not only to cut off the lime salts and use decalcifying agents, but you should also use such ions as stimulate rhythmical contraction, such as sodium, chlorine, and iodine with thyroid; strychnine is also valuable.

Alcohol.—There is no condition of the heart in which alcohol is beneficial, except in spasmodic and painful

affections such as angina pectoris, and even in such cases nitroglycerine, morphine, and atropine are better and more easily regulated remedies. Alcohol is a protoplasmic poison, and under no circumstances can it strengthen the cardiac muscle. It lowers the arterial and raises the venous pressure, and increases the diastolic tension within the heart. In this way it acts as a cardiac stimulant, but as it has a paralysing effect on the cardiac muscle there is a loss of tone with tendency to dilatation of the heart; hence the large, flabby, fatty hearts of beer drinkers, and the great retention of fluid in their vessels and tissues. Tobacco is a nervine sedative and cardiac depressant. Cases of heart disease do better without it.

CONCLUSION.

This address has already assumed such lengthy proportions that I must defer the treatment of that large class of cases of chronic degenerative lesions of the vessels, heart, and its valves until some future occasion. I have told you that a modern authority says that "cardio-sclerosis is progressive, and we cannot stay it," so I presume the other branch of my subject can afford to wait. On the other hand, I am inclined to think that if you follow in the lines which I have already laid down, you may not merely stay the progress of these degenerative lesions, but, what is infinitely more important, you may often prevent their occurrence.

REFERENCES.

[1] *Diseases of the Heart and Aorta*, 1854, p. 357. [2] *Therapeutics of Circulatory Derangements*, by Professor M. J. Oertel, M.D. Translated by Edward J. Edwardes, M.D.

A CASE OF HEART-BLOCK, WITH FIBROUS DEGENERATION AND PARTIAL OBLITERATION OF THE BUNDLE OF HIS.

BY BYROM BRAMWELL, M.D., F.R.C.P.E.,
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THE following are the notes of an interesting case of heart-block in which the auriculo-ventricular bundle of His was almost completely degenerated. The case is unique, inasmuch as a complete heart-block has not, so far as I know, been previously observed as the result of rheumatic fever; cases of slight heart-block after rheumatism have been described (see, for instance, Cases XVIII and XXIII, pp. 324 and 339, Mackenzie's *Diseases of the Heart*).

Dr. James Mackenzie has kindly read over the case, and given me his opinion with regard to the tracings. Unfortunately the tracings which were taken of the radial pulse and some of the tracings from the neck, showing the venous and carotid pulses, have been lost.

A Case of Heart-block: very slow pulse: fibrous degeneration of the auriculo-ventricular bundle of His; calcareous nodule situated at the right end of the attachment of the anterior mitral flap extending into the septum, invading and almost completely obliterating the bundle towards its auricular extremity.

Clinical History.

J. F., aged 29, married, formerly a worker on the railway, was admitted to the Edinburgh Royal Infirmary on April 14th, 1907, complaining of pain in the joints, chest, and region of the heart.

Previous History.

The patient has had six attacks of rheumatic fever, at the ages of 15, 17, 20, 22, 23, and 26 respectively; since the first attack of rheumatic fever, when the heart is said to have been affected, he has been short of breath on exertion.

Three years ago, when shunting on the Caledonian Railway, he fell in front of a train; his left hand was crushed, and the left arm had to be amputated. He has not worked since this date.

The present attack of rheumatic fever commenced fourteen days ago; up to that time he was feeling quite well.

Family History.

Unimportant.

Social Conditions and Surroundings.

Fairly good. Formerly a heavy smoker, has smoked much less lately; a teetotaler.

Condition on Admission.

Almost all the joints are swollen and painful. Temperature on the morning of admission 101.8°, on the evening of admission 103°; pulse 106; respirations 34.

Cardiac pulsation seen over an extensive area; apex beat in the sixth left interspace, 2½ in. below and ½ in. outside the mammary line (4 in. from the sternum); a long, loud, harsh systolic murmur and a soft diastolic murmur heard in the aortic area; a long systolic murmur in the mitral area. Radial pulse 106; tension medium; arterial coats not thickened. Lungs normal. Tongue furred; slight constipation; liver not enlarged. Complains of some headache but sleeps fairly well. Urine: specific gravity 1014; no albumen; a heavy deposit of urates. The red blood corpuscles number 3,920,000, the haemoglobin equals 70 per cent., and the white corpuscles number 7,400.

Treatment.

Sodium salicylate 20 grains, three times daily; milk diet.

Progress.

Rapid improvement; disappearance of joint pains.

On April 7th the temperature was normal and the patient was feeling very well.

On April 10th the patient woke at 2 a.m. with severe pain over the region of the heart; at 6 a.m., while washing himself, he suddenly became weak and breathless. On examination the pulse was found to be beating at the rate of 30 per minute. The patient vomited after breakfast. When seen by me at 10.30 a.m. the radial pulse numbered 26 per minute; the temperature was 99.2° The cardiac ventricles were contracting at the rate of 26 per minute. The right side of the neck looked full (apparently due to distension of the right internal jugular vein); the right external jugular vein was distended and distinctly pulsating; the venous pulse on the right side of the neck numbered from 80 to 90 beats per minute; the pulsation of the right common carotid artery was forcible and numbered 26 per minute. The right radial pulse was small and feeble. The apex beat of the heart was in the sixth interspace, 2½ in. below and ½ in. external to the nipple line. Pulsation could also be seen and felt in the fourth and fifth left interspaces; the pulsation in the fourth left interspace seemed to occur a little later than the apex beat. A very long and loud systolic murmur was audible in all the cardiac areas; it was perhaps a little louder in the tricuspid area than elsewhere. This systolic murmur was immediately followed by a short murmur and then (that is, after the short murmur) by a sound which seemed to be the second sound. I was not able at the time to interpret the meaning of the second (? diastolic) murmur and of the sound (? second sound) which followed it. I simply state the facts as I thought I heard them—the description was dictated to my house-physician at the bedside.

The pupils were equal and measured 2½ mm. in diameter. With each pulsation of the cardiac ventricle and slightly after it, a quick jerking movement of the head, sometimes double in time, occurred as a result of contraction of the neck muscles. This jerking of the head was a curious phenomenon which, so far as I know, has not been noted in any case of heart-block before, possibly it was due to reflex stimulation of the neck muscles through the vagus.

Some of the tracings, taken on April 10th and 11th, of the pulsation in the neck and heart's impulse are reproduced in Figs. 1 to 7.

Fig. 1, which is a tracing from the neck, shows both the venous pulse due to contraction of the right auricle and the carotid pulse. The small waves (*a*) in the tracing are chiefly

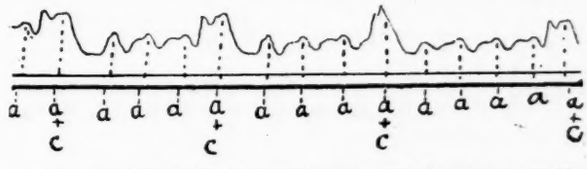


Fig. 1.—Tracing of the movements in the neck due to the carotid and jugular pulses. The small waves (*a*) are due to the auricle, and the large waves (*a* + *c*) are due to the carotid—an auricular wave in the jugular occurring at the same time as the carotid pulse (see diagram, Fig. 2).

auricular and are superimposed on the carotid pulse when it appears. The big waves are a combination of the auricular and ventricular (carotid) contractions (*c* + *a*). The other neck tracings also show the auricular waves. Fig. 2 is a diagram showing more clearly the independent rhythm of the auricle

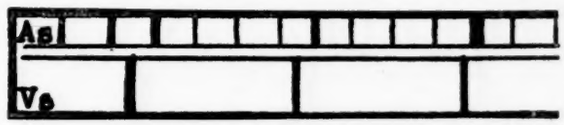


Fig. 2.—Diagram representing the movement shown in Fig. 1. The perpendicular lines in the upper space represent the systoles of the auricle (*As*) as shown by the waves *a*; those in the lower space represent the systoles of the ventricle (*Vs*) as shown by the carotid beats. The relation of the *Vs* to the *As* is constantly varying, showing therefore that the systole of the ventricle occurs independently of the stimulus from the auricle.

and ventricle. Fig. 3 is a tracing from the left ventricle; it shows the rise characteristic of the ventricular systole. The small waves in this tracing are due to contraction of the left auricle. Fig. 4 is a tracing partly from the left ventricle (the

upstroke) and partly from the right ventricle (the fall). This tracing shows that both ventricles shared in the slow action.

In these four tracings (Figs. 1, 2, 3, and 4) there seems to be graphic evidence of the contractions of all four chambers of the heart. The small waves (*a*) in Fig. 1 are jugular waves, due to contraction of the right auricle; the small waves in Fig. 3 appear to be due to contraction of the left auricle; the contractions of the left ventricle are shown in Fig. 3, taken from the (left) apex beat; and the contractions of the right ventricle are shown in Fig. 4.

Fig. 3.—Tracing from the apex, showing the infrequent contractions of the left ventricle. The small waves between the large beats are due to the systole of the left auricle.

Fig. 5 appears to be wholly right ventricle and shows the inverted cardiogram in contrast with that represented in Fig. 3 from the left ventricle. Fig. 6 is, no doubt, left ventricle and shows the long pauses with auricular waves very distinct. Fig. 7 is a simultaneous tracing of the apex beat and of the pulsation in the neck; it was made on April 11th.

Fig. 4.—Taken over the right ventricle, showing a great fall during systole (the inverted cardiogram characteristic of the systole of the right ventricle); it also shows that the right ventricle participated in the infrequent action with the left ventricle.

April 11th. The patient appears to be slightly better this morning. The ventricular contractions and the radial pulse number 30 per minute. No change in the strength and character of the heart beats; a long, loud systolic and a short diastolic murmur still present; the radial pulse is rather weaker. During this day the patient had several attacks of very severe angina

Fig. 5.—Tracing from the fifth left interspace, made on April 11th, 1907. This tracing appears to be wholly due to the right ventricle, and shows the inverted cardiogram in contrast to Fig. 3.

pain; he stated that he felt as if he were being crushed between two buffers. The radial pulse during the attacks of pain was almost imperceptible and somewhat irregular. The jerking movements of the head with the apex beats of the heart still continue. There has been a great deal of vomiting. Amyl nitrite inhalations, strychnine subcutaneously, and a menthol mixture were prescribed.

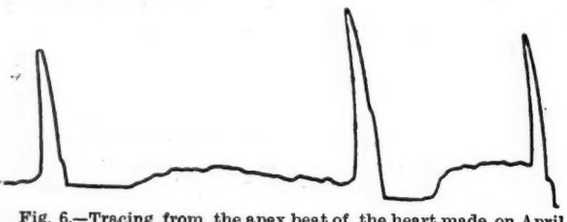


Fig. 6.—Tracing from the apex beat of the heart made on April 10th, 1907. This tracing appears to be due to contraction of the left ventricle, and shows the long pauses between the ventricular contractions with small auricular waves interposed.

April 12th. Much worse; very restless all day. Pulse down to 24 per minute. The pain in the heart has been very severe and distressing. Morphine has been given at frequent intervals. Towards midnight the pulse went down to 22. The vomiting has not been so bad to-day. The pupils now measure from 5 to 6 mm. in diameter. The patient is perfectly sensible.

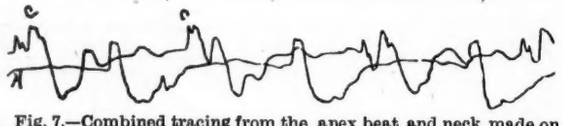


Fig. 7.—Combined tracing from the apex beat and neck made on April 11th, 1907.

April 13th, 2 a.m. The cardiac pain was so severe that morphine had to be given on several occasions. Pulse 19; respirations 17. An interval of 8 seconds was counted between two of the cardiac beats on one occasion. The radial pulse is very irregular. The patient died at 4.30 a.m.

Post-mortem Examination.

This was made by Dr. Shennan on April 13th, 1907. Both lungs were in places attached to the chest walls by old adhesions. The pericardial sac was obliterated as the result of old pericarditis. The exterior of the pericardium was adherent to the thoracic wall opposite the apex of the heart.

The heart was injected with formalin in order that the auriculo-ventricular bundle might be carefully dissected out.

On passing the fingers through the auricles a large calcareous mass could be felt, on the upper border of the inter-ventricular septum posteriorly, apparently measuring about 1¾ in. antero-posteriorly by about ¾ in. vertically and about 1½ in. transversely. On further examination, after fixation, this corresponded to the anterior cusp of the mitral valve, which was extremely calcareous.

There was some bronchitis and congestion of the lungs, but no consolidation. The liver was enlarged, congested, and fatty. The kidneys were large and congested, with some swelling and fatty change. The spleen was firm, large, and congested.

Subsequent Examination of the Heart.

General adherent pericarditis; dilatation of all the cardiac cavities; hypertrophy of the ventricles; old endocarditis with calcareous deposits in the aortic and mitral valves; the anterior flap of the mitral valve markedly calcareous; some narrowing of the mitral orifice; thickening of the tricuspid with some dilatation of the orifice; pulmonary cusps slightly but uniformly thickened.

Dr. E. B. Jamieson of the Anatomical Department kindly dissected out the auriculo-ventricular bundle. His report on its condition is as follows:

The auriculo-ventricular bundle of His has apparently undergone fibrous degeneration, and the few muscular fibres remaining on the surface are very pale. A calcareous nodule situated at the right end of the attachment of the anterior mitral flap extends into the septum, invades and well nigh obliterates the bundle towards its auricular extremity.

NOTE ON THE PULSUS BIGEMINUS.

By E. E. LASLETT, M.D., B.Sc.,

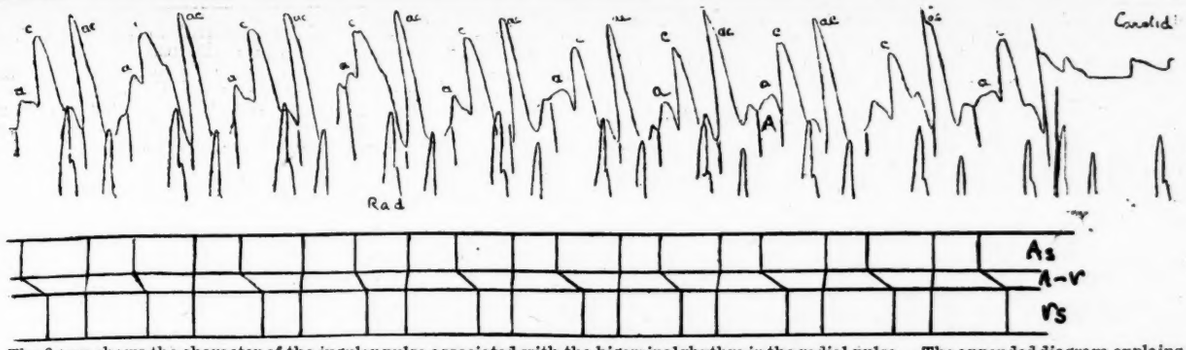
HULL.

My object in publishing this note is to draw attention to a curious, and I believe hitherto undescribed, form of jugular pulse associated with the pulsus bigeminus, which in itself is not a very uncommon phenomenon.

The patient, a man aged 40, was first seen on June 27th, 1906. He had been working at his trade as a painter up to a week before. He had had heart disease to his knowledge for seven years but had never been laid up on this account. At one time he weighed 16 st., but for some months he had been losing flesh. He had been temperate as regards both alcohol and tobacco.

He suffered greatly from dyspnoea, which necessitated his being propped up in bed. He was pale and flabby, and there was considerable oedema of the legs and trunk but no ascites. The pulse was 100, regular, with a large, markedly collapsing beat, and the marked throbbing of the arteries, characteristic of aortic disease, was very noticeable, and perceived by the patient himself. The heart was enlarged to the right, and to the left to 1 in. outside the nipple line. There were double murmurs at all areas of the heart but no thrill could be felt. It was obviously a case of failure of compensation in aortic disease. Tracings taken at this time showed that the pulse was quite regular, while there was a very large auricular wave in the jugular pulse, which was otherwise normal. He was much troubled at night with cardiac asthma, and the usual drugs were tried, without any but temporary relief to this symptom. In spite of treatment by rest in bed and cardiac drugs the oedema and other symptoms of distress persisted, and he died on July 31st. For the last fortnight he was taking 5-minim doses of tincture of strophanthus with citrate of caffeine.

A week before his death his pulse took on a bigeminal character, which was continuous, and persisted until the day before he died, when it became too feeble to detect its true rhythm. The tracing of the jugular and radial pulse when this condition was present is shown in the accompanying figure, from which it will be seen that at the extra beats which are the cause of the bigeminal rhythm, the auricles contracted during the ventricular systole, and there is one large wave synchronous with the extra beat in the radial artery. The increased size of this wave is due, as Mackenzie has pointed out, to the fact that the right auricle is unable to empty itself into the contracted ventricle, and therefore a larger quantity of blood than usual is sent into the jugular veins. The unusual feature in this tracing lies in the fact that the combined wave commences distinctly beyond the middle line—that is, nearer to the post-extra-systolic auricular wave than to the pre-extra-systolic. This puzzled me so much that I sent this and another tracing of two days' earlier date to Dr. James Mackenzie, who most kindly examined them



The figure shows the character of the jugular pulse associated with the bigeminal rhythm in the radial pulse. The appended diagram explains the nature of the events. *As* signifies auricular systoles; *Vs*, ventricular systoles; and A–V, the conduction between auricle and ventricle.

for me. He confirmed the existence of this peculiarity, and kindly indicated the diagram appended to the tracing, which shows very clearly the nature of the events. Mackenzie divides extra-systoles into three types—auricular, ventricular, and nodal—the ventricular including the rare form of interpolated extra-systole. He has suggested that the probable origin of the extra-stimulus lies somewhere in the remains of the primitive cardiac tube, in auricle, ventricular bundle, or auriculo-ventricular node. In the nodal extra-systole the auricles and ventricles contract together, or nearly so, and usually prematurely. It may, however, happen that the combined wave appears at the normal period of auricular contraction, and it may then be difficult to determine whether the extra-systole is of nodal or ventricular origin. In the present instance, from the regularity and persistence of the bigeminal character, and the fact that the auricular wave is always synchronous with the ventricular, it is probable that the extra-systoles are of nodal origin. Although there is no time record in the tracing, it may be taken as certain that the *a–c* interval is increased. In an earlier tracing, in which the combined wave was nearer the middle point, the *a–c* interval was less. The increase of the *a–c* interval is no doubt due to the incomplete restoration of conductivity as a result of the short period between the extra-systole and the following normal auricular beat.

I am unable to explain this peculiar rhythm. It is evident that alternate auricular contractions failed to appear at the normal period, but whether the sinus rhythm remained regular or not it is impossible to say. On the day of death the pulse became very feeble and quick, and the patient was too ill to allow of a tracing being taken. It is consequently uncertain whether the heart in the final stage became continuously irregular (nodal rhythm).

THE INEFFECTIVENESS OF CALCIUM SALTS AND OF CITRIC ACID AS USED TO MODIFY THE COAGULATION TIME OF THE BLOOD FOR THERAPEUTIC PURPOSES.

WITH A DESCRIPTION OF A MODIFICATION OF McGOWAN'S METHOD OF ESTIMATING THE COAGULATION TIME OF THE BLOOD.

BY T. ADDIS, M.D., M.R.C.P.EDIN.,
CARNEGIE SCHOLAR.

By means of a more accurate method than Sir A. E. Wright's, I have shown that he was mistaken in his statement that soluble calcium salts and citric acid are capable of altering the coagulation time of the blood of people in health. The fact that this initial experimental result of his cannot be confirmed is sufficient in itself to throw great doubt on his later work in this connexion. Since 1893 he has published a number of papers on the use of calcium in the treatment of haemophilia, and of haemorrhage in many other conditions, and also in what he terms "serous haemorrhages"—a group of conditions said to be characterized by an abnormally long coagulation time, which could be cured when the coagulation time was reduced by the administration of soluble calcium salts. Further, citric acid was recommended as a prophylactic against thrombosis in typhoid fever. Although clinical reports as to the value of this method of treatment have been conflicting, the general idea that the coagulation time in disease can be shortened or lengthened at will, by giving the proper dose of calcium lactate or citric acid, has never been effectively disputed, and has been very widely accepted and acted upon.

It was not possible to test the accuracy of this belief by the method of estimating the coagulation time of the blood which I have described, since it is not applicable clinically because of the presence of a greater or less degree of auto-agglutination of the red blood corpuscles in very many pathological conditions. Another method was therefore necessary, and the modification of McGowan's method, which is described below, is one which is applicable clinically, and which yields results which can be relied upon within certain limits.

In reviewing the different methods I found that the means adopted by Sabrazès and McGowan of determining the presence of a certain definite amount of coagulation is more accurate than those employed in the other methods, although it is not possible to obtain constant or comparable results with either of their methods, because in the case of the former the means of maintaining a constant temperature is not sufficient, and in the latter is wanting altogether.

McGowan believed that for clinical purposes it was superfluous to have an apparatus to maintain his glass tubes at a constant temperature, since variations of temperature between 15° C. and 20° C. did not appreciably affect the coagulation time.

This, however, as I have already shown, is very far from being the case. With my method the following coagulation times were found to correspond with the temperatures between 15.5° C. and 20.5° C.:

15.5° C., 11 min. 46 sec.;	18.5° C., 7 min. 34 sec.;
16.5° C., 10 min. 10 sec.;	19.5° C., 6 min. 2 sec.;
17.5° C., 8 min. 7 sec.;	20.5° C., 5 min. 22 sec.

The necessity of the maintenance of a constant temperature is, therefore, fully apparent. The variable results which are obtained by these and other coagulometers are said by those who use them to indicate true variations in the coagulation time of the blood, but the coagulation time is found to be constant when a more accurate method is used, and those apparent variations are really due to experimental errors, of which the most important is a deficiency in, or a total neglect of, the maintenance of a constant temperature for all observations.

Description of the Method.

McGowan's method consists in partially filling a capillary glass tube, 6 in. long and 1.5 mm. in diameter, with blood under certain precautions, sealing up one end, and at intervals of a minute breaking off a small part until a fine fibrin thread is seen on slowly drawing the fractured ends apart. The coagulation time is the time elapsing between the filling of the tube and the first appearance of fibrin.

Undoubtedly the simplest and most accurate way to keep the tubes always at the same temperature would be to use a gas regulator. But in the wards of most hospitals there is no gas, and it is absolutely necessary that the whole procedure should be carried out by the bedside of the patient. An electrical thermostat would be sufficient, but is expensive, so it was better to dispense with any mechanical regulator, and to make use of the following device.*

When a closed cylindrical vessel is placed in the centre of a similar but considerably larger vessel, and both are filled with

* The apparatus can be obtained from Paul Altman, scientific instrument maker, 56, Louisen Strasse, Berlin, for 35 marks.

water at a temperature of 20° C., a fall in the temperature of the water in the outer cylinder shows itself before any change in the temperature of the inner cylinder can be seen. If, whenever this is observed, a little hot water be added to the outer cylinder until the water is again at 20° C., the temperature of the water in the inner cylinder may, with a little care, be kept practically constant for any time that may be desired.

When the McGowan's tubes are introduced into the inner vessel their environment has thus a constant temperature of 20° C. This was chosen as the temperature at which all observations were conducted because it is a little above the ordinary ward temperature, which generally varies from 15° C. to 20° C. Usually the ward temperature is only slightly below the temperature of the water in the apparatus, so that it is only necessary to add a little hot water every half hour or so.

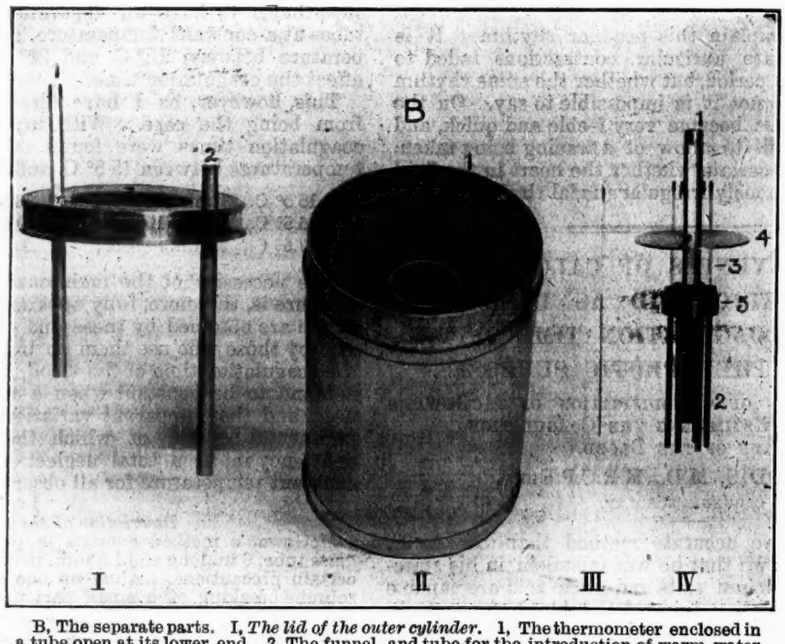
The outer cylinder is made of metal and is covered with asbestos. It is 9 in. high and has a diameter of 6½ in. Piercing the lid there is on one side a tube leading down almost to the floor, so that where hot water is introduced it may enter below and gradually rise upwards. On the other side there is a thermometer, enclosed for protection in a brass tube, which is open below. The mercurial bulb lies in the water, about half-way between the floor and the lid, while the scale, which reads in half degrees Centigrade, is outside the apparatus. In the centre of the lid there is a circular opening into which the part designed for the reception of the McGowan's tubes is fitted.

The inner cylinder is of glass, 5 in. long and 1¾ in. in diameter, and is so placed that it is nearly equally distant from the lid, floor, and sides of the outer cylinder. It is open at the end next the hole in the lid of the outer cylinder. Through these openings both cylinders can be filled with water at 20° C., the inner to the brim, the outer not quite to so high a level, so that when water has to be added it may not overflow into the place where McGowan's tubes are placed. These cannot be put directly into the water of the inner cylinder, because when a part of a tube is broken off to test for the presence or absence of fibrin the water would come into direct contact with the blood when it was replaced. This is avoided by having fine brass tubes in the inner cylinder into which they can be put.

A, The complete apparatus with the McGowan's tubes in position.

These open round the circumference of a brass plate which closes the inner cylinder. Another plate closes the opening in the lid of the larger cylinder, and through the centre of both plates runs a thermometer protected by a closed brass tube, the bulb lying in the centre of the inner cylinder, so that the reading indicates the temperature of the air in the tubes in which the McGowan's tubes lie.

Six small holes, 2 mm. in diameter, in the outer plate correspond in position to the openings of the six tubes in the plate which closes the inner cylinder. Small funnels are placed over these openings to facilitate the introduction of the glass tubes.



B, The separate parts. I, *The lid of the outer cylinder.* 1, The thermometer enclosed in a tube open at its lower end. 2, The funnel and tube for the introduction of warm water into the outer cylinder. 3, The opening through which the part designed for the reception of the McGowan's tubes fits. II, *The two cylinders*—1, the outer; 2, the inner. III, *A McGowan's tube* charged with blood. The blood should not reach quite to the other end of the tube. IV, *The part in which the McGowan's tubes are placed.* 1, The thermometer in a tube closed at its lower end. 2, One of the fine brass tubes into which the McGowan's tube (3) runs. 4, The plate which closes the opening in the lid of the outer cylinder. 5, The plate which closes the inner cylinder.

In obtaining the blood, a fairly large drop should follow the puncture immediately. This does not occur if the patient's hands are cold, and so it is often necessary to warm them first with a hot-water bottle. Then, if a slip-knot is tightened round the base of the thumb, an entirely painless puncture on the extensor surface near the nail will immediately produce a sufficient quantity of blood.

The best thing to use for pricking the finger is, I think, Jenner's vaccinostyles. One of McGowan's tubes, 8 in. instead of 6 in. long, is then taken and introduced into the drop of blood until about 4 in. have been filled. The other end is then closed with sealing-wax and it is put into the apparatus. The time at which the blood appears is noted. This is repeated with two more tubes, using each time a new pricker and making a fresh puncture.

It is essential that there should be no contact with the blood from previous punctures. The apparatus contains receptacles for six tubes, so it is possible to fill and introduce three others from another patient before it is time to examine the first tubes for fibrin.

After eight minutes the first tube is taken out. It is held by the left hand in forceps covered with rubber in order to avoid contact with the fingers which would considerably raise the temperature of the blood. A slight scratch is made with a glass file about ½ in. from the end. This part is then carefully broken off by the finger and thumb of the right hand, and the two fractured ends drawn slowly apart holding them up against the light. If a fine filament of fibrin is seen, it is not to be taken as indicating coagulation, but only as showing that the end-point is near.

The reason for this is that the blood at the end of the tube is the part of the blood which last left the wound. This coagulates sooner than the blood which first appears, and as the amount of this acceleration is inconstant, it is better to disregard it, and to take as the end-point the appearance of a thread of fibrin only in the last inch of the blood. The tube is, therefore, broken a little higher up, and if, as often happens, no fibrin is seen, it is returned to the apparatus and the second tube is taken. The differences between the times when the three drops of blood appeared and the time when a fibrin thread was seen in the last part of the tubes, gives three coagulation times, and the average of these is taken as representing the approximate coagulation time of the blood in the case in question. This tends to reduce the error arising from the deficiency in delicacy of the end-point.

Of course a certain amount of error arises from the fact that the tube must be removed from the apparatus into a medium of inconstant temperature in order to test for the presence of coagulation, but as this time is short, and as there is not a great difference between the ward temperature and 20° C., it is not of great importance.

Altogether, I am convinced that, so far, this is the only method, clinically applicable, which yields results upon which reliance may safely be placed.

The limits of experimental error for this modification of McGowan's method were determined in the following way. I had already found, in observations with my method extending over several months, that my own coagulation time was constant from day to day. It was, therefore, fair to assume that any irregular variations found in making daily determinations with this method were due to experimental error.

The average of three readings at 20° C. was taken as representing the coagulation time of my blood, and this was repeated daily for fifty days. The average of these fifty observations was 9 min. 50 sec., and the average

variation from this mean was 34 sec.; while the possible variation is given by the longest and shortest times—that is, 11 min. 41 sec. and 8 min. 45 sec.; that is, 1 min. 51 sec. above and 1 min. 5 sec. below the average.

In a large number and variety of pathological conditions only a very small percentage of cases were met with in which the coagulation time overstepped these limits, and these were patients who were very seriously ill. In one or two of these daily observations disclosed variations so progressive and considerable that there appeared to be good reason to suspect a real change in the coagulation time of the blood, but further observations will be necessary to confirm this. In all the other cases daily readings gave slight irregular variations within the limits of experimental error, indicating that in all probability the coagulation time would have been found to be constant if a perfectly accurate method had been used.

The approximate accuracy of the method having been thus determined, the following plan was adopted in order to test the value of calcium lactate and citric acid. A period of about eighteen days was divided into three periods of six days, and during the whole time the coagulation time was taken every other day. During the first period neither calcium nor citric acid was taken, while in the second period calcium was given, and in the third citric acid, or vice versa. This was carried out in 8 cases, namely:

Two of thrombosis.
Advanced arterio-sclerosis with a failing heart and general oedema.
Marked jaundice probably due to cancer of the liver.
Tuberculous peritonitis.
Lobar pneumonia.
Lead poisoning with chronic interstitial nephritis.
Dysentery.

Each coagulation time given represents the average of three observations. The calcium was given as calcium lactate dissolved in water. The total average of the coagulation times taken under these three conditions shows that neither the calcium nor the citric acid had any effect:

	Total Average Coagulation Time.
Period without calcium or citric acid ...	9 min. 39 sec.
Period in which calcium was taken ...	9 min. 31 sec.
Period in which citric acid was taken ...	9 min. 34 sec.

The following are the details by which it can be seen that in none of these cases was there at any time any indication of a change in the coagulation time during the administration of calcium or citric acid:

C. G., aged 59. Thrombosis of left internal saphenous vein.
1. Period without calcium lactate or citric acid:
First day, 9 min. 55 sec. Third day, 11 min. 20 sec. Fifth day, 10 min. 50 sec.
2. Period during which citric acid 30 grains was given 4-hourly:
Sixth day, 10 min. 0 sec. Eighth day, 10 min. 20 sec. Tenth day, 9 min. 35 sec.
3. Period during which calcium lactate 60 grains was given 4-hourly:
Twelfth day, 9 min. 40 sec. Fourteenth day, 10 min. 10 sec. Sixteenth day, 9 min. 10 sec.

J. C., aged 61. Thrombosis in veins of right lower extremity. Cause unknown.
1. Period without calcium lactate or citric acid:
First day, 10 min. 50 sec. Second day, 9 min. 40 sec.
2. Period during which citric acid 30 grains was given 4-hourly:
Third day, 9 min. 20 sec. Fifth day, 9 min. 40 sec. Seventh day, 9 min. 0 sec.
3. Period during which calcium lactate 30 grains was given 4-hourly:
Ninth day, 9 min. 20 sec. Eleventh day, 9 min. 55 sec. Thirteenth day, 10 min. 0 sec.

J. L., aged 48. General arterio-sclerosis, aortic and mitral incompetence, general anasarca.
1. Period without calcium lactate or citric acid:
First day, 8 min. 30 sec. Second day, 8 min. 15 sec.
2. Period during which citric acid 30 grains was given 4-hourly:
Third day, 9 min. 30 sec. Fifth day, 9 min. 40 sec. Seventh day, 9 min. 15 sec.
3. Period during which calcium lactate 30 grains was given 4 hourly:
Ninth day, 10 min. 15 sec. Eleventh day, 8 min. 50 sec. Thirteenth day, 8 min. 20 sec.

J. H., aged 65. Deeply jaundiced. Symptoms suggested cancer of the liver.
1. Period without calcium lactate or citric acid:
First day, 8 min. 50 sec. Third day, 9 min. 40 sec. Fifth day, 10 min. 10 sec. Seventh day, 9 min. 35 sec.
2. Period during which calcium lactate 15 grains was given 4-hourly:
Eighth day, 9 min. 40 sec. Tenth day, 9 min. 30 sec. Twelfth day, 8 min. 50 sec.
3. Period during which citric acid 30 grains was given 4-hourly:
Fourteenth day, 9 min. 10 sec. Sixteenth day, 10 min. 50 sec. Eighteenth day, 9 min. 30 sec.

N. I. T., aged 25. Tuberculous peritonitis.
1. Period without calcium or citric acid:
First day, 10 min. 10 sec. Third day, 10 min. 35 sec. Fifth day, 10 min. 0 sec.
2. Period during which calcium lactate 30 grains was given 4-hourly:
Seventh day, 9 min. 15 sec. Ninth day, 9 min. 55 sec. Eleventh day, 10 min. 10 sec.
3. Period during which citric acid 30 grains was given 4-hourly:
Thirteenth day, 10 min. 45 sec. Fifteenth day, 10 min. 10 sec. Seventeenth day, 10 min. 30 sec.

F. W., aged 17. Lobar pneumonia. Crisis on second day.
1. Period without calcium lactate or citric acid:
First day, 9 min. 30 sec. Second day, 9 min. 50 sec. Third day, 9 min. 10 sec.
2. Period during which citric acid 30 grains was given 4-hourly:
Fifth day, 9 min. 10 sec. Seventh day, 9 min. 40 sec. Ninth day, 9 min. 15 sec.
3. Period during which calcium lactate 30 grains was given 4-hourly:
Eleventh day, 9 min. 30 sec. Thirteenth day, 9 min. 25 sec. Fifteenth day, 10 min. 30 sec.

G. O., aged 37. General arterio-sclerosis and chronic interstitial nephritis, the result of lead poisoning. Severe headaches, vomiting, and colic for the first seven days.
1. Period without calcium or citric acid:
First day, 10 min. 10 sec. Third day, 9 min. 25 sec. Fifth day, 11 min. 10 sec.
2. Period during which calcium lactate 30 grains was given 4-hourly:
Seventh day, 10 min. 20 sec. Ninth day, 11 min. 35 sec. Eleventh day, 10 min. 45 sec.
3. Period during which citric acid 60 grains was given 4-hourly:
Thirteenth day, 9 min. 55 sec. Fifteenth day, 10 min. 25 sec. Seventeenth day, 10 min. 0 sec.

W. W., aged 35. Dysentery.
1. Period without calcium or citric acid:
First day, 7 min. 45 sec. Third day, 8 min. 15 sec. Fifth day, 8 min. 20 sec.
2. Period during which calcium lactate 15 grains was given 4-hourly:
Seventh day, 8 min. 35 sec. Ninth day, 7 min. 35 sec. Eleventh day, 7 min. 20 sec. Thirteenth day, 8 min. 15 sec.
3. Period during which citric acid 30 grains was given 4-hourly:
Fifteenth day, 8 min. 15 sec. Seventeenth day, 8 min. 45 sec. Nineteenth day, 8 min. 45 sec.

Some observations were made on patients with typhoid fever, but the results are not comparable with those given above, because a less accurate and constant technique and one which tended to give shorter times was then used. So far as they go, however, they fail to show that any change was produced on the coagulation time, for in seven patients who were taking citric acid, the average of 27 estimations was 7 min. 57 sec., while the average of 30 estimations in two patients who were taking calcium was 8 min. 43 sec.

A well-marked case of haemophilia with a characteristic family and personal history was admitted for haemorrhage of four days' duration following on the extraction of a tooth. On the second day after admission, the bleeding still continuing, the coagulation time was 12 min. 35 sec. at 7.30 p.m. At 7.45 p.m. 60 grains of calcium lactate in solution were taken, but two and a quarter hours later the coagulation time was 14 min. 30 sec., and no effect had been produced on the bleeding, which continued for four days more, and ultimately appeared to be stopped by the application of a pledget of cotton-wool soaked in the blood of another person.

A case of urticaria was found to have a coagulation time of 10 min. 15 sec. Calcium lactate was given 4-hourly, and on the two following days the times were 10 min. and 10 min. 15 sec. During these two days the urticaria gradually disappeared, but this was not because the coagulation time had been shortened by the calcium.

These results are, no doubt, few in number, and since no cases of chilblains or of physiological albuminuria are included, do not cover all the territory which Sir A. E. Wright claims for calcium and citric acid, but as in no single instance was any effect whatsoever found to follow their use I think that the general conclusion that they are unable to effect any change in the coagulation time of the blood is fully justified.

As I have shown elsewhere, the reason for this is that the increase or decrease in the content of the blood in ionisable calcium which follows their administration is far smaller than that amount of change which is necessary to produce an appreciable effect on the coagulation time.

I have to thank Dr. A. K. Gordon, of Monsall Fever Hospital, and Dr. Oscar Clark and Dr. Grosvenor, of Gloucester General Infirmary, for having kindly allowed me to make these observations on patients under their charge.

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THE late Mr. James Fletcher, of Nottingham, whose will has now been proved, made a bequest of £500 to the General Hospital in that city.

A CASE OF TYPHOID COMPLICATED WITH STAPHYLOCOCCAL SEPTICAEMIA.

BY

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and

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The clinical and bacteriological history of this case prove that it was one of typhoid fever, complicated at the end of the second week by a secondary generalized infection with *Staphylococcus albus* and *aureus*.

A nurse at the Liverpool City Hospital, Grafton Street, aged 29, after three months' typhoid work, was transferred to night duty in the scarlet fever wards. On October 31st, 1908—eleven days later—she complained of not feeling well, and was therefore taken off duty. Indefinite symptoms characterized the onset of the illness up to November 5th, when the probability of enteric fever arose, and this was the provisional diagnosis till November 13th. It is sufficient to state that, though the classic signs were not prominent, the weight of evidence was in favour of enteric. Pyrexia was fairly typical, there were two doubtful spots, the spleen was palpable, and Ehrlich's diazo-reaction was positive.

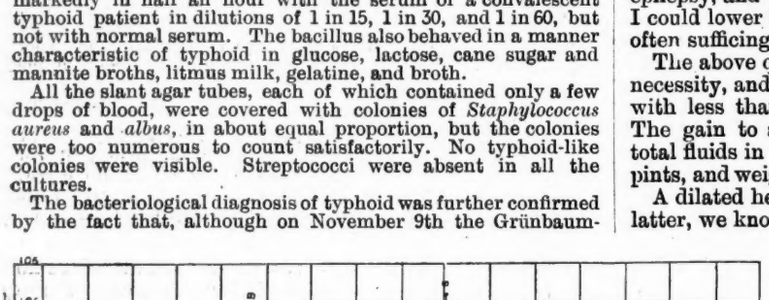
At 8 p.m. on November 13th—probably the fourteeth day of the disease—the patient had the first of a series of severe rigors, which recurred at intervals during the next nine days, giving an unusual clinical picture in typhoid. The rigors lasted from twenty minutes to half an hour, and were followed, as a rule, by a profuse perspiration (see Chart).

As the symptoms were associated with the development of a marked apical systolic bruit, and accentuation of the pulmonary second sound, and as on November 9th the Grünbaum-Widal reaction was negative, it was thought that the case might be one of infective endocarditis simulating typhoid at its onset.

On November 18th, therefore, a bacteriological examination of the blood was undertaken. The skin of the arm was sterilized; 10 c.cm. of blood were withdrawn from the median cephalic vein, and distributed among three flasks containing 100 c.cm. of broth and half a dozen slant agar tubes. After forty-eight hours the flasks contained staphylococci, and a Gram-negative motile bacillus with many flagella. This bacillus, after it had been subcultured for several weeks, was agglutinated markedly in half an hour with the serum of a convalescent typhoid patient in dilutions of 1 in 15, 1 in 30, and 1 in 60, but not with normal serum. The bacillus also behaved in a manner characteristic of typhoid in glucose, lactose, cane sugar and mannite broths, litmus milk, gelatine, and broth.

All the slant agar tubes, each of which contained only a few drops of blood, were covered with colonies of *Staphylococcus aureus* and *albus*, in about equal proportion, but the colonies were too numerous to count satisfactorily. No typhoid-like colonies were visible. Streptococci were absent in all the cultures.

The bacteriological diagnosis of typhoid was further confirmed by the fact that, although on November 9th the Grünbaum-Widal reaction, tested at the Municipal Bacteriological Department, was negative, on November 18th, unknown to us, it was reported positive in dilutions up to 1 in 60.



A, Serum reaction—(1-15); B, rigor; C, blood cultured; D, serum reaction + (1-60); E, slight rigor.

The patient, who was treated for the septicaemia with injections of antistreptococcic serum twice daily, had the last rigor on November 21st, and was discharged cured on January 8th. The cardiac bruit had in the meanwhile completely disappeared.

The occurrence of intermittent pyrexia is common enough in the third and fourth week of typhoid, but one of us, who has seen over 3,000 hospital cases of this disease, cannot recall having met with such extreme and unaccountable variations in temperature, combined with repeated rigors, moreover, in the second week of the disease.

The source of the secondary infection with staphylococci could not be discovered though assiduously looked for, but it is worthy of note that the patient immediately before her illness had been nursing scarlet fever, a disease intimately associated with infective processes.

Another point of interest is the fact that the patient prior to the bacteriological diagnosis was treated with antistreptococcus serum, with apparently beneficial results, so it was deemed prudent to continue its administration, notwithstanding the absence of streptococci in the blood.

HOW MUCH FLUID DOES THE BODY REQUIRE?

By ALEXANDER HAIG, M.A. and M.D.Oxon., F.R.C.P., SENIOR PHYSICIAN TO THE METROPOLITAN HOSPITAL, AND TO THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN.

If a man living an ordinary sedentary life, not entailing visible perspiration, takes from 50 to 60 oz. of fluid per diem, then a weight of 150 lb. apparently requires about 50 oz. of fluid, this amount being passed each day through the kidneys. The question is, By how much may this quantity be reduced before physiological difficulties are encountered?

The teaching of the late Sir Andrew Clark on the importance of reducing fluid in cases of morbus cordis first arrested my attention, and I have followed his teaching in such cases with much benefit. In none have I seen urinary gravel induced by reduction of fluid in those who had not previously had gravel. Working at the circulation in high blood-pressure cases (for example, headache, epilepsy, and depression), I found that by lessening fluids I could lower blood pressure 20 or 30 mm. of mercury, this often sufficing to turn the balance.

The above quantities of fluid are more a habit than a necessity, and most people can accustom themselves to do with less than 50 oz. a day. I generally aim at 30 oz. The gain to a diseased or dilated heart is obvious; the total fluids in the body are gradually reduced by several pints, and weight falls a corresponding number of pounds.

A dilated heart resembles a distended bladder, and the latter, we know, may lose all power of expulsion. A heart thus enabled to get a more complete grasp of its contents not only saves a great expenditure of force in twenty-four hours, but valves incompetent in the dilated condition may, even though diseased, become almost completely competent. It is no uncommon thing for the transverse area of the heart to diminish 2 in. in three weeks, even if no drugs are given and no other change made.

I wrote in 1903[1] on the washing out plan, mentioning that I had seen a number of cases in which an attempt to wash out an excess of uric acid had been quite unsuccessful, because uric acid controls the passage of water out of the body, while the water does not to any important extent control the excretion of uric acid. I there mentioned some cases in which excess of fluid had dilated the heart, leading to atrophy of its muscular tissues, and leaving little but a prospect of chronic invalidism.

On a dry diet I have seen astonishing recoveries from morbus cordis. In one case almost no fluid was taken except that in fruit, and the patient passed from hopeless invalidism to the power of bicycling fifty to sixty miles in a day with ease.

The relief from reduced blood-pressure alone is no small

matter for an organ which has to work the whole twenty-four hours, and I have always agreed with the late Sir W. H. Broadbent that we do more good by diminishing the heart's work than by driving it on with tonics.

Consider the condition of the heart, placed in a practically unyielding investment (the pericardium); every dilatation means pressure, and pressure means at least defective circulation in the cardiac veins and capillaries, to say nothing of the influence of the defective action of the left ventricle on the cardiac arterial supply. Thus every dilatation of the right side, if it increases intra-pericardial pressure, must mean defective circulation in every muscle fibre of the heart. This risk is removed by lessening fluids, and in morbus cordis this also diminishes the strain on the valves, and so the tendency to recurrent endocarditis.

On the heart the effect is not only to diminish work and aid its mechanical efficiency but also to improve its nutrition enormously. The pressure in the whole arterial system is diminished, and the importance of this in advanced cases of arterial disease or impending cerebral haemorrhage needs no demonstration. The capillaries and venules are no longer over-distended and liable to rupture. The veins previously visible and prominent, especially in the lower limbs, shrink and disappear, and the very texture of the tissues becomes firmer and harder. This was well seen in the case of morbus cordis above mentioned, where fluid was taken chiefly in fruit. In place of the flabby limbs of a beer-drinking butcher this patient developed the iron-wire muscles of our nearest frugivorous relatives. The frugivora, I believe, take little fluid, and that mostly in the form of fruit.

Such changes as I describe profoundly affect the whole vascular system. Several times lately I have been called to see cases of aneurysm in which, I know not why, no attention had been paid to the quantity of fluid. One of these patients was so bad with dyspnoea that I scarcely dared to move him for examination. I found that he was taking 2½ pints of fluid a day. Four weeks later, as the result of reduced fluids, he was walking about, and only sat down for examination. The aneurysm was not cured, but life, which was threatened by the distension of high blood pressure, was at least prolonged.

In the dilated and splashing stomach commonly found with chronic collaemia there is often in addition an increase of heart area, and a capillary reflux of 7 to 8 with a blood pressure of 130 or less, and a quick, often irregular pulse, with palpitation on exertion. A capillary reflux of 7 with a strong heart should show a blood pressure of 140, and one of 8 a blood pressure of 160; thus we can measure the extent of the heart failure. These conditions are commonly seen together, and collaemia is the central factor. When the heart is already overweighted by high blood pressure it is most injurious to give excess of fluids in the false hope of washing out excess of uric acid. Excess of fluid is slowly absorbed from the stomach; while there it dilutes the digestive juices and favours fermentation; when absorbed it dilutes the digestive secretions, diminishing their power, and favouring the increase of microbic putrefaction, malnutrition, and debility. Its tendency is to dilate the stomach the muscles of which are, like those of the heart, in poor condition from defective circulation. As a result of such malnutrition and debility excess of fluid will eventually produce some oedema of the ankles, which is not infrequently accompanied by oedema of the cortical membranes, which lies at the root of brain-fag and debility, commonly called "nerves"; of bad temper, nervous excitement, hysteria, or of neurasthenia, depression, and lethargy up to the more fully-developed signs of uraemia—for example, twitching of muscles, headache and coma. Many of these conditions are often promptly relieved and may be cured by lessening fluids, strengthening the heart, and later on removing collaemia by a purin-free diet. I believe that no small part of the increase of such "nerve" troubles is due to increased consumption of fluids, especially where the increase of fluid is not accompanied by any measure to diminish the introduction of uric acid. As a rule collaemic sufferers dislike fluids. Their blood contains excess of fluid, and shows only small percentages of haemoglobin and cells, since the capillaries of all the organs of excretion (kidneys, skin, lungs) are blocked by collaemia. These patients are easily persuaded to take less fluid, and generally have to be urged to take excess.

Albuminuria and Bright's disease are an additional indication for this treatment, for at least a part of the defective combustion, called Bright's disease, is due to cardiac weakness, and anything improving the condition of the central organ of the circulation improves the general combustion.

The treatment of collaemia with heart failure and its results is to cut down fluids but not to reduce the income of proteids—for no heart tonics will act if food is deficient; to rest the whole body as much as possible so as to lessen the work of the heart; to give heart tonics such as digitalis or nux vomica in small doses long continued, till the pulse-rate is normal and the natural ratio between capillary reflux and blood pressure re-established. I used to be puzzled by cases of neurasthenia and depression in which there were obvious indications for heart tonics, and yet the administration of such tonics made the mental condition worse. In these cases there is always high blood pressure, and to raise the pressure in the skull still more by tonics will do harm *so long as there is cerebral oedema;* but remove the oedema by diminishing fluids, and the tonics can then be given with benefit. The same applies to the heart—take off the work and improve its mechanical power by diminishing fluids, and the tonics will do treble the good in half the time.

What harm may be done by diminishing fluids? Uric acid gravel, or the presence of large quantities of urate in the ears, joints, and fibrous tissues, forbid diminution of fluid over a long period, for the excretion of such urate store is almost certain to give trouble in the tubules and pelvis of the kidneys if sufficient fluid is not taken. Yet when a patient is obviously dying of heart failure on the one hand, or cerebral oedema on the other, we must immediately cut down fluids and consider the excess of urates afterwards. There might be increased tendency to thrombosis, but, as the ultimate effect is a general improvement of the circulation, this does not seem important, especially if a purin-free diet is adopted.

Constipation is another possible trouble, and sufferers on an ordinary diet will not be better on diminished fluids. But what is the inconvenience of a little constipation if weighed in the balance against heart disease, or uraemia, or cerebral oedema? The use of common laxatives will counteract it while matters are critical, and later there will not be much trouble from constipation if fruit is used daily.

In serious conditions I take thirst as a guide, and I find that most patients can reduce their fluids to 30 oz. a day, and, with the help of fruit, to 25 oz., 20 oz., or less, at least for a time. If salts, salines, and diuretics are given more fluid will be called for, and then we have to decide whether most good is done by withholding drugs and water, or by giving both. As a rule, I am in favour of the former course, though drugs can be used at first, as it takes several days to reduce the fluids of the body. I order that 30 oz. be aimed at, but that fruit or extra water shall be given whenever thirst imperatively demands it.

REFERENCE.

1 *Canada Lancet*, August, 1903.

THE OCCURRENCE OF TUBERCLE BACILLI IN THE BLOOD IN TUBERCULOSIS.

BY

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IT appears to have been little, if at all, recognized that tubercle bacilli may commonly be found in the blood of tuberculous patients.

Very recently Rosenberger[1] published a remarkable series of cases which must bring the question of blood infection in this disease into prominent notice. The cases he examined included many different forms of tuberculosis, and he was able to demonstrate the bacillus in the blood of every patient, whatever the type of the disease, and however early the disease appeared to be clinically. It is

clearly of great importance that his conclusion as to the occurrence of blood infection in every case of tuberculosis should be tested. To mention one matter—if it be completely proved that living tubercle bacilli occur in the blood of practically every tuberculous patient, no matter how early or circumscribed the lesion appears to be, it is without doubt that our ideas as to the use of vaccine-therapy—tuberculin—must be considerably modified.

Using to some extent his methods, I have examined the blood in 12 cases of pulmonary tuberculosis. The method of examination is simple, and is, shortly, as follows:

Method.

The skin of the front of the forearm is thoroughly cleansed with liquid soap, alcohol, and ether. A tourniquet is applied, and, with a sterile syringe fitted with a platino-iridium needle previously flamed, about 5 c.cm. of blood are drawn from any convenient vein. The blood is at once mixed with about an equal volume of sterile citrated salt solution. The mixture is placed in a swift-running centrifuge for twenty minutes, and some of the deposit taken up on a slide to form a thick film. This is dried in an oven at 60° C., and is then placed in sterile distilled water to lake the blood. Thereafter the film is fixed and stained in the usual way.

It is important to state that every precaution is taken against risk of contamination. A new pipette and new slides, kept in strong sulphuric acid, are used in each case. The centrifuge tubes and flasks are cleansed with caustic soda, pure sulphuric acid, and sterile distilled water, and similar care is taken with the syringe.

Out of the 12 cases, 10 had distinct physical signs and had tubercle bacilli in the sputum. Adopting Turban's classification, there were of Stage I 3 cases, of Stage II 6 cases, and of Stage III 1 case. This gives a total of 10, and *all* these 10 showed tubercle bacilli free in the blood.

The organisms were of the long or short forms, beaded or uniformly stained, and were acid-fast rods morphologically indistinguishable from the tubercle bacillus. There seems little possibility of doubting their identity with it; seen in the sputum they would be judged absolutely diagnostic.

In each case they were few in number; no groups were seen; usually the bacillus was alone in the field, or at most two appeared together. They were found with more or less difficulty. Often only one was seen after long and laborious search over a whole slide, and in a few cases two and three and four slides had to be examined before success. In one case phagocytosis was noticed, and only in one was there evidence of mixed infection in the blood. In this a diplococcus was seen in fair numbers, and it is being further investigated.

The result of cultures from the blood of these cases and the result of the inoculation of the infected blood into animals remain to be worked out.

One of the two cases in which no amount of search could show the bacillus was a patient with very indefinite symptoms and physical signs, and altogether of doubtful diagnosis. In the other case the physical signs were marked, but repeated examination had never revealed tubercle bacilli in the sputum.

Only 4 of the 10 cases giving a positive result had any fever at the time of examination of the blood. In the other 6 the temperature was normal, and had been so for many days or weeks, all of them getting about well, and showing, in short, the usual chronic course of the disease. I state this to draw attention to the fact that they were by no means rapidly progressing acute cases, or cases of general tuberculosis.

I have to express my thanks to Dr. Henry Clarke, Honorary Superintendent of the Research Laboratory, for kind advice and help, and to the other physicians of the Liverpool Hospital for Consumption and Diseases of the Chest, for the facilities they have given me in this matter.

REFERENCE.

[1] Rosenberger, *American Journal of Medical Sciences*, February, 1909.

THE fifth International Congress of Dental Surgery will be held at Berlin from August 23rd to 28th. The work of the Congress will be distributed among twelve sections. The General Secretary is Dr. Schaeffer-Stuckert, of Frankfort-on-Main (Kettenhofweg, 29), to whom all communications relative to the congress should be addressed. In connexion with the congress there will be an exhibition.

CHRONIC NEPHRITIS TERMINATING WITH HAEMORRHAGE FROM THE BOWEL AND PERFORATION OF THE BOWEL.

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THE complications of chronic nephritis are numerous and for the most part well recognized, but the following case presents some unusual features, and calls attention to a dangerous complication about which very little appears to have been written:

A married woman, aged 27, was admitted into Queen's Hospital on account of profuse haemorrhage from the bowel.

She looked very pale, ill, and thin, and said she had not been really well for three years; and that since the birth of a stillborn child about a year before, she had suffered from vague pains in the epigastrium and in the lower part of the abdomen. On examination of the abdomen there was neither pain, tenderness, nor rigidity. The temperature was normal and remained within normal limits till the day of her death; the heart was hypertrophied and the second aortic sound accentuated; the pulse 112 and of high tension. The urine showed a cloud of albumen and one or two granular casts.

For the two days following admission the motions were fluid and dark with blood; after that they became light in colour, but on several occasions small dark red clots were found. The patient remained quite free from pain, the abdomen was soft and flat and nowhere tender. Feeding was limited to nutrient enemata. Bacteriological examination of the faeces revealed nothing unusual.

Before admission she had been treated for gastric ulcer, and after admission the diagnosis of gastric or duodenal ulcer was considered, and with it the advisability of operation; but the site of the haemorrhage was uncertain and the patient seemed to be improving, so it was decided to do nothing till she had been a little longer under observation.

On the seventh day after admission she became suddenly collapsed and complained of severe abdominal pain; she rapidly developed the signs of a perforative peritonitis and died on the following day.

Necropsy.

The peritoneal cavity contained a quantity of thin, blackish, offensive fluid, which had obviously escaped from the small intestine through three perforations, which could be seen in the lower end of the ileum. The lower 6 or 7 ft. of the small intestine and the caecum were blackened with numerous haemorrhages into the wall of the gut, and on opening the bowel I found more than 100 small ulcers in the lower portion of the small intestine. The ulcers were all small, the largest being about ¼ in. in diameter, and round or oval; each ulcer seemed to have originated in a patch of haemorrhage, though there were many haemorrhages which had not ulcerated; they varied in depth, many had reached the peritoneum, and three had perforated, while others were quite shallow and involved no more than the mucous membrane. The edges of the ulcers were not raised; Peyer's patches were not prominent. The remainder of the alimentary canal appeared to be healthy.

A careful examination of the mesenteric vessels was made and a microscopical examination of the wall of the intestine, but it threw no light on the immediate cause of the haemorrhages, though it seemed clear that the ulcers were due to invasion of the haemorrhages by micro-organisms from the bowel.

The kidneys were pale, granular, and contracted, and microscopically showed all the changes of a chronic interstitial nephritis and a great degree of endarteritis of the smaller vessels.

The heart was large and showed marked hypertrophy of the left ventricle.

Quite recently a similar case came under my notice:

A man aged 28, a lead worker, was admitted into the Queen's Hospital suffering from chronic nephritis and arterio-sclerosis, and died suddenly from a cerebral haemorrhage. The autopsy revealed a marked hypertrophy of the heart and degenerated arteries, a large cerebral haemorrhage, and an advanced interstitial nephritis, but in addition the lower 6 ft. of small intestine was blackened with numerous small haemorrhages into its wall, exactly as in the previous case; and on opening the bowel I found superficial ulcers forming in many of the haemorrhagic spots; but in this case there had been no haemorrhage into the lumen of the bowel, I take it because the ulceration was not sufficiently advanced.

Thus two very similar cases, differing only in degree, have been seen within a few months of each other in the *post-mortem* room of a comparatively small hospital, so it is not likely that the condition is one of very great rarity, though it must be one which it is important to recognize.

Whether these two cases must be regarded as cases of haemorrhage due to increased blood pressure, or whether we must look for some change in the mesenteric vessels, or for some toxin in the part of the bowel affected, I am

not in a position to say, but one cannot help feeling that there is some connexion between the lesion in the bowel and the condition of the kidneys. With a powerful heart and diseased arteries we expect cerebral and retinal haemorrhages and epistaxis as a matter of course. Why, then, should the vessels of the stomach and intestine remain intact?

I beg to thank Dr. Douglas Stanley and Dr. Foxwell, of Queen's Hospital, for permission to publish this note concerning their cases.

ROENTGEN CINEMATOGRAPHY AND ITS IMPORTANCE IN MEDICINE.

By Dr. FRANZ M. GROEDEL,
BAD-NAUHEIM.

Scientific cinematography has two chief aims—first, to represent a series of movements on the screen; and, secondly, to analyse movements.

Roentgen cinematography has the same two aims in view. As yet, however, no positive result has been achieved. A few investigators (I may mention Macintyre, Levy-Dorn, Eykman, and Alban Köhler) have indeed succeeded, by a skilful combination of views taken at different times, in projecting certain movements of the body on the screen. Apart from the great didactic value of this combination of views no real scientific importance can be claimed for them.

The analysis of a movement is of far more importance than its pictorial reproduction. We can watch the process of the movement on the screen with tolerable distinctness, though not demonstrate it so well as by a cinematographic projection, by which everything is reproduced on an enlarged scale. In many cases, however, it is almost impossible to distinguish the various phases of the movement, owing to the well-known slowness of the human eye, or, rather, of the retina. It will not be until we come to study heart, stomach, and breathing movements by means of cinematographic views that this question will be finally cleared up.

For the production of real Roentgen cinematograms the shortest possible exposure is requisite. The way pointed out by me[1] to attain this has since been followed by several investigators, and experience has confirmed my statements. With every good inductor it is possible, by employing a primary current of sufficient strength, to produce views of the thorax with film intensifiers in $\frac{1}{10}$ to $\frac{1}{20}$ second.

Having thus, a year ago, succeeded in fulfilling this first necessary condition, I immediately proceeded to construct an apparatus for taking a series of Roentgengrams. It soon appeared that there were very considerable difficulties to be overcome, a detailed account of which in this place would lead me too far.* It will suffice here to describe in brief the main principles of my Roentgen cinematograph. A number—for example, 24—of strong drying boxes, each containing a film between two intensifiers, are gradually moved forwards by means of a slide. Immediately in front of a leaden screen supplied with a corresponding opening, against which the patient leans, the drying boxes fall through a slit into a case, which is proof against Roentgen rays. The tube is attached behind the patient. In front of the tube moves a large leaden disc, 1 cm. thick, which contains two openings diametrically opposite each other. When one of the openings is in front of the tube, the foremost plate is exposed, and when the opening is just covered the drying boxes are pushed forward and the foremost plate is then thrown off. The whole apparatus, which weighs more than 1½ centner, is moved by means of an electric motor. It can take at least four views in a second.

If the apparatus is fixed for an exposure of $\frac{1}{15}$ to $\frac{1}{20}$ second, views of the heart in pulsation, or the diaphragm in motion, can be obtained with extremely sharp outlines. If it is fixed to $\frac{1}{10}$ second, the movements of the stomach can be distinctly reproduced. For joint movements the time of exposure varies according to whether the Roentgengram is taken with plates or film-intensifiers. The primary conditions will be found in the work above mentioned.

Thus we are now in a position to reproduce all the movements in the human body by means of Roentgen cinematography, to study the different phases and to analyse the movements, which the human eye itself is mostly unable to do. Much preparatory technical work has still to be done, it is true, but the way has now been cleared.

The question as to what practical use Roentgen cinematography will be to scientific research must at present remain unanswered. Certain motions, such as pulsation of the heart and the involuntary movements of the stomach, can now be examined with scientific exactitude for the first time. As regards other movements, such as breathing, we have yet to ascertain whether the views we have hitherto held were right or not. As has been repeatedly stated, the eye is not properly adapted for analysing a movement. Therefore we are perfectly justified in expecting revelations in quarters which have hitherto seemed perfectly cleared up. It is only necessary to call to mind what a revolution instantaneous photography and cinematography have produced in regard to the pictorial and plastic representation of moving objects.

We shall only be able duly to appreciate Roentgen cinematography from a practical point of view when we have studied cinematographically the changes of the movements in the interior of the body in a pathological condition. In this respect, to quote but a few examples, the study of the pathological state of breathing, the various abnormal forms of heart pulsation, the pathological changes in the movements of the stomach, etc., all afford an ample field for scientific research.

From the tests I have as yet made with this apparatus, I will here only mention that I have already succeeded in reproducing not only the movements of the joints, the stomach, and the breathing, which are comparatively easy, but also the pulsation of the heart, as I fully demonstrated before the Verein für innere Medizin in Berlin on March 1st, 1909.

Reference.
[1] Groedel and Horn: Ueber Röntgenmomentaufnahmen mit den bisher gebräuchlichen Apparaten. *Muench. med. Woch.*, 1908. No. 11.

* I gave a full description of the apparatus constructed for me by Messrs. Reiniger, Gebbert, and Schall, in Erlangen, in the *Deutsche med. Wochenschrift*, 1909, No. 10.

NOTES ON A CASE OF TETANIC SPASM

WITH REFERENCE TO THE DIFFERENTIAL DIAGNOSIS BETWEEN TETANUS AND STRYCHNINE POISONING.

By W. SINCLAIR STEVENSON, M.B., Ch.B.Edin.,
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The following case illustrates very well the difficulty which is occasionally met with in the differential diagnosis of tetanus and poisoning by strychnine:

L. H., a young woman of 24, unmarried, was admitted to the Royal Berkshire Hospital on a Wednesday suffering from intermittent spasm of the face and trunk. It appeared that she was a domestic servant, though she had left her last place a fortnight before, and had since been living at home. She said that she had twice recently fallen downstairs. There was no history of any other accident. Three days previously she noticed that the muscles of her face and lower jaw began to contract spasmodically. By the following day the muscles of the face were less affected, but the jaws were firmly closed, and could not be separated. On Tuesday her back became affected, and she assumed a position of mild opisthotonos.

Condition on Admission.

When seen on Wednesday evening she was in a very weak state. The pulse was rapid and compressible. Temperature 102°. Respirations 30. The muscles of the lower jaw, neck, and back were in a state of tonic contraction, the lower jaws about ¼ in. apart, and it was impossible to separate them any wider without using undue force. The muscles of the face were unaffected, but the head was retracted in a moderate degree, and the trunk was arched backwards and was quite rigid. The abdomen remained soft and could be palpated without difficulty during the severest spasms. Her arms were affected to some extent, the elbows being firmly pressed in to the sides and the forearms flexed and supinated; the hands were flexed on the forearms. Her lower limbs were stiff and the toes inclined to point downwards; but the legs, though kept flexed as a rule, could easily be straightened. The rigidity of the legs was sufficiently marked to prevent the successful testing of the reflexes. Respiration was shallow and rapid, but regular. The spasms, as a whole, showed periods of exacerbation, but even during these the respiration, though more rapid, remained

perfectly regular, and there were no signs of dyspnœa. The urine was of high specific gravity and contained a slight trace of albumen. Unfortunately, no attempt was made to ascertain the presence or absence of strychnine in the urine.

After she had been kept quiet in bed the tonic contractions passed off to some extent. She remained in the position of opisthotonos and her head was retracted throughout, but all the other muscles relaxed considerably.

From this time onward she suffered from periodic tonic contractions of the muscles mentioned before at varying intervals; sometimes the attacks would come on every other minute, and then again she would have no attacks for a couple of hours. As the end approached they became increasingly frequent, and at last almost continuous, but in spite of this her breathing was scarcely affected.

She was able to take her fluid food well and could speak intelligibly, but scarcely moved her jaws in doing so. Discomfort was complained of during the attacks, but apparently she never had any actual pain. There was no vaginal discharge, and till an hour before her death she was in possession of all her faculties.

She was given three injections of tetanus antitoxin—chloral and bromides in large doses had been tried previously without effect—but her temperature rose to 104° F., and she died within forty-eight hours.

A few hours before she died I was informed that facts had just come to light showing that she had recently given birth to a full-time child which had just been discovered in an advanced state of decomposition in her trunk.

Such a state of things had not been suspected in any way, as she was afterwards proved to have given birth to the child without disturbing any one in the house, and to have performed her usual duties on the following day. She was also known to have bicycled about the country three days later.

Necropsy.

At the subsequent *post-mortem* examination very little positive evidence as to the nature of her disease was forthcoming. Rigor mortis was present in both lower limbs, but the back, upper limbs, and the head and neck were not affected.

The breasts were not noticeably enlarged, but milk could be expressed from the nipples. The nipples themselves afforded evidence of pregnancy, and the uterus was soft, enlarged, and typical of the third to fourth week after parturition. Internally, on the posterior wall of the fundus, was a small amount of soft, friable, purulent material, which, when examined bacteriologically for the presence of tetanus bacilli, proved negative. Both lungs were congested. The heart was in the state of systole, and contained a little fluid blood. The blood throughout the body was quite fluid. The bladder was contracted and empty. The brain and spinal cord showed no lesions, and beyond a few petechial haemorrhages in the membranes of the cerebro-spinal system, and a curious "crimson lake" colour of the muscles generally, nothing further could be discovered.

Dr. Kratter's experiments have demonstrated that strychnine is eliminated from the body by the kidneys within forty-eight hours, and as she had been under close observation for three days it was not thought advisable to have the viscera examined chemically.

The diagnosis in this case seems to lie between the poisons of strychnine and tetanus. Other conditions giving rise to similar spasms are tetany, lesions of the spinal cord or brain, hydrophobia and hysteria. Of these the last may, I think, be dismissed at once, as there was no evidence of hysteria in the girl's previous history, and her conduct at the time of her confinement was so cool and collected as to render the presence of such a condition extremely unlikely. Hydrophobia is disposed of by the history, by the presence of trismus and opisthotonos and by the absence of respiratory involvement.

Cerebro-spinal affections are put out of court by the presence of trismus, and the absence *post mortem* of any pathological lesions in the nervous system.

Further, there were no other symptoms pointing to a cerebral lesion.

Tetany is more difficult to exclude, but the fact that her hands were not seriously involved, and that there were no complete intermissions of the spasms, are decidedly against it.

We are left, then, to decide between tetanus and strychnine, and I have tabulated the main symptoms, with reference to the way in which they favour one or the other.

Taking these in order:

Absence of a Wound.

There was no history of any wound, nor was any abrasion of the skin discoverable at the *post-mortem* examination.

On the other hand there was the purulent condition of the involuting uterus. Parturition must have taken place under conditions the reverse of aseptic. The fact that no tetanic organisms were found is not a matter of much importance, as it is comparatively common for those organisms to be absent from the seat of infection forty-eight hours after the onset of the disease.

Patient's Symptoms.	In favour of Tetanus.	In favour of Strychnine Poisoning.
1. No history of any wound, absence of tetanus bacilli	No	—
2. No history of any poison having been taken	—	No.
3. Slow onset; prolonged course of disease (ten days)	Yes	No.
4. Early trismus	Yes	No.
5. Facial expression; risus sardonicus absent	No	Yes.
6. Opisthotonos	Yes	Yes.
7. Muscles of abdomen unaffected... ...	No	No.
8. Arms and hands unaffected	No	Yes.
9. Legs unaffected	No	No.
10. Persistent rigidity	Yes	No.
11. Lack of pain	No	No.
12. High temperature	Yes	Doubtful.
13. Absence of complete rigor mortis, especially of back	—	No.

Ingestion of Strychnine.

There was certainly no evidence that strychnine had been administered, but the circumstances of the case were such as to lead one to imagine that this state of affairs was extremely probable.

The first two points are therefore rather against tetanus

The Slow Onset.

The slow onset would fit in very well with the diagnosis of tetanus, and would be correspondingly against that of strychnine. I believe that the longest recorded incubation period between the ingestion of strychnine and the onset of the symptoms was in Dr. Macredy's case, where the time which elapsed was eight hours, and in this case laudanum had been taken at the same time as the strychnine. In these cases, however, there was a definite attempt to commit murder or suicide, or else the poison was taken accidentally, and in every instance fairly large quantities of the poison were taken. Is it not within the bounds of possibility that this girl had been taking strychnine in minute quantities for some time, perhaps with a view to the induction of abortion, and that some form of cumulative action took place, giving rise to quite atypical and prolonged symptoms?

Against this, however, is the fact of the rapid excretion of strychnine in the urine, and the impossibility of her having obtained further supplies of the drug while in hospital. Also, presuming that the drug was taken to induce abortion, she could not have taken any further doses for a fortnight before her symptoms appeared.

Trismus and Risus Sardonicus.

The jaws were affected from the beginning, in marked contrast to strychnine poisoning, where the masseters are among the last muscles to be affected. The contraction of the jaws was not typical, as they were both actively and passively movable to the extent of a quarter of an inch.

Risus sardonicus, supposed to be one of the most constant symptoms of tetanus, was entirely absent in this case from first to last.

Opisthotonos.

This is equally well marked in both diseases, though perhaps rather more violent in strychnine poisoning. In this case it was present but not to excess.

Contractions of Muscles.

The abdominal muscles were quite lax and unaffected throughout, and the lower limbs were but slightly involved. This condition would seem to be equally rare in both diseases.

The fact that the arms and hands were more or less involved is distinctly in favour of strychnine.

A point which was specially noticeable was that outside influences, noises, jars, movements of the bed, bright light, etc., had no effect whatsoever in causing or increasing the intensity of the spasms.

Persistent Rigidity.

The persistent rigidity and partial relaxation from time to time point strongly to a chronic variety of tetanus.

Pain and Temperature.

The absence of all acute pain, even during the severe exacerbations of the spasms, seems to be quite an unusual feature.

A high temperature used to be thought diagnostic of tetanus, but more recent researches have shown that strychnine poisoning gives rise to high temperatures as well. In both diseases the temperature is apt to rise in a marked degree after death. The presence of this *post-mortem* rise was not ascertained here.

Rigor Mortis.

In strychnine poisoning the back especially is generally rigid for a long time after death, and in a certain famous case it was found to be so two months after. It has, however, been known to pass off after twenty-four hours. It is usually present very shortly after death.

On the whole the balance of evidence seems to be slightly in favour of a chronic form of tetanus. The case was a remarkable one, for the balance between the two conditions, especially when she was first seen, was so evenly adjusted that each slight alteration in her symptoms seemed to incline it first in one direction and then in the other.

As time went on it became increasingly difficult to entertain the idea that the case was one of strychnine poisoning, especially when one considered that the duration of such a case from the onset of the symptoms averages two hours.

But even supposing that the spasms were due to a chronic form of tetanus, many of the symptoms still remain to be accounted for in some other way.

I am indebted to Dr. Francis Hawkins, under whose care the patient was in this hospital, for the permission to publish these notes.

PRELIMINARY NOTE ON THE HISTOLOGY OF EGYPTIAN MUMMIES.

By MARC ARMAND RUFFER, M.D.,
ALEXANDRIA.

SOME time ago my friend Professor Elliot Smith, F.R.S., gave me some fragments of mummies of the XXI dynasty (dating from 1000–1050 B.C.), and I endeavoured to examine these fragments by histological methods. As far as I knew then, this was practically the first attempt to study microscopically the minute structure of tissues mummified for about three thousand years; at any rate, I found nothing bearing on this subject in the literature at my disposal, but I was informed that Professor Looss of Cairo had shown the striation of mummified muscular fibres to his colleagues. I demonstrated some of my sections at the Sheffield meeting of the British Medical Association and at the December meeting (1908) of the Cairo Scientific Club. Quite lately my friend Mr. Shattock has read a paper on a similar subject before the Royal Society of Medicine.

METHOD.

It was found impossible to obtain good microscopical sections without first restoring, to some extent at any rate, their flexibility to the tissues, as their brittleness and hardness broke the edge of the microtome knives; even when a fair section was obtained, this invariably crumbled up when transferred to the slide. I need not describe the various methods tried and rejected, but it will be sufficient to note that, by combining an alkaline salt such as carbonate of soda with a hardening reagent such as alcohol or formol, the mummified tissue placed in the mixture gradually swells up and resumes its former shape.

The solution which has given me the best results is composed of alcohol 100 parts, water 150 parts, 5 per cent. carbonate of soda solution 60 parts. In many cases, however, such a solution softens the tissues too much, and more alcohol must then be added.

After a period of time, the length of which depends on the bulk and nature of the tissue, the solution is replaced by 30 per cent. alcohol, and more alcohol is added day by day. After two or three days the softened tissue is transferred to absolute alcohol, then chloroform, paraffin, and cut *secundum artem*. During these manipulations the tissue remains pliable, though it shrinks a good deal. Very thin sections do not present any particular advantages, and I generally use three divisions of Minot's microtome. Such preparations stain readily with the ordinary dyes, but for tissues such as muscular fibre teased preparations, after maceration in 1 in 10,000 caustic potash, give excellent pictures.

RESULTS.

I have prepared sections of muscle (voluntary, cardiac, and involuntary), blood vessels, skin, intestine, stomach, liver, kidney, bone, mammary glands and testicles, and the main characters of all these organs and tissues can be readily recognized. The striation of muscular fibre, for instance, the muscular coats, the submucous tissue, and occasionally even the glands of the intestines and the convoluted tubules, the straight tubules and glumeruli of the kidneys, the various layers of the skin can be identified with certainty. I have no doubt that coarse pathological changes, such as inflammation, cirrhosis, tubercle, or cancer, could be demonstrated by this method.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

NUTMEG POISONING.

NUTMEG poisoning itself is rare, and this case is especially interesting in that, although the amount taken was so small, it led to very definite symptoms and also to my hearing of two similar cases. I was sent for to see a man, aged 22, who had suddenly been taken ill after a midday meal of cold mutton and milk pudding. The pudding was a small one and he had eaten the whole of it himself. It was flavoured with about a quarter of a moderately-sized nutmeg. Within a few minutes he felt his face flush and he began to itch all over and went up to his bedroom. Here he was immediately sick and vomited his dinner, and at the same time his nose began to bleed. He then lay down on his bed and did not remember anything more till I roused him. I saw him about half an hour later. He was lying face downwards on the bed in a completely collapsed condition. His face was swollen, especially his lips and lower eyelids, and he was cold and markedly cyanosed. The pupils were contracted, but not pin-point. The radial pulse was rapid and scarcely palpable; the heart was thumping and irregular. On speaking to him he appeared dazed, but was able to give me a clear description of what had happened. His tongue was clean, slightly swollen, and he complained of a feeling of fullness in his throat. He also had some slight abdominal pain, but this soon passed off. About an hour later the cyanosis had disappeared and was replaced by a diffuse flush. His face was still swollen, and he still complained of slight itching. The pupils were now normal. There was no further vomiting, and beyond a feeling of drowsiness there were no further symptoms, and he awoke the next morning feeling perfectly well. The vomit obviously consisted of his dinner in an undigested condition. It did not smell of nutmeg. Careful inquiry elicited no other cause for what was evidently a case of acute poisoning. The patient was a healthy, well-developed youth.

The two other cases were described to me by his mother, a publican's wife. Some years ago two barmaids in her employ were awakened at night with abdominal pains, vomiting, and diarrhoea. Their faces were noticed to be swollen and blue. On going to bed they had each taken half a nutmeg in a glass of stout, as they had been assured that this would cure a rash they had. They recovered without further symptoms.

Holmdale, Parkstone. K. MAYOH GIBBINS.

MÉNIÈRE'S DISEASE.

I read with much interest the able paper by Dr. W. Syme, in the Journal of April 10th, on aural vertigo. May I mention a few points noted in a personal attack, and gathered from cases that have come under my care?

Under the term "Ménière's disease" is grouped a class of cases, rare in occurrence and unique in character, in which vertigo is caused by perversion or abeyance of the labyrinthine function, the cause of which may be either of an irritative or destructive character, whilst there is always present coincident disease of the semicircular canals.

The vertigo occurring in Ménière's disease is its most prominent symptom, and is of a functional character, and may show itself in a person seemingly in good health, or the subject only of some slight neglected auditory disease. He finds he has a noise in one of his ears, and suddenly becomes giddy. Surrounding objects appear to be revolving; if in a room there may be a sensation as of walls and ceiling falling in upon him, or he may feel that he is going through movements of gyration, which have been compared to the sensation caused by long-continued rotary movements of the body. If the vertigo be slight, the patient may be able to walk unsteadily; if in a greater degree, walking is impossible, associated with inability to stand without support. In a severe attack the patient falls, or rather is suddenly thrown to the ground. If in bed when the attack comes on he may complain of the bed rising or sinking, or of rotation. There is no loss of consciousness, except, perhaps, momentarily in severe cases; nor do the facial or other muscles show any muscular spasm. In one of my patients, if sitting, the legs were thrown out violently, and the hands became blanched—the latter condition due possibly to some disturbance of the inferior cervical ganglion and brachial plexus. The attack is followed by a feeling of extreme prostration. The paroxysm may only last a few moments, may recur many times a day, or only at rare intervals. Tinnitus is commonly persistent, and before the onset of the attack may be found to be increased.

The mental anxiety is no doubt a reflex condition, and is often most persistent and distressing; the patient may be afraid to walk across the street, or to be left alone, although the general health may be good and a long time may have elapsed since an attack; this state of apprehension of a recurrence of the attack may last for months or even years. Successive attacks may recur at variable intervals, depending largely on the recurrence of any of its causes.

Common to the majority of cases will be found three cardinal associated symptoms—vertigo, tinnitus, and deafness. Vomiting may be present, but is not constant.

I think it may be granted that most of the cases seen are the result of some congestive or inflammatory derangement of the auditory nerve, usually of the nerve terminals of the labyrinth; if due to this condition, on placing a watch on the affected mastoid, it will be heard very imperfectly, or not at all, and, further, that all cases of functional vertigo are not cases of *vertigo ab aure laesa*.

Deafness, to a greater or less extent, is constant, but not an essential symptom. Clinically, we find a certain proportion of cases occurring in subjects with normal auditory conditions; when present, the deafness is in the internal ear, and as the deafness increases the tendency appears for the patient to improve. My experience leads me to agree with Trousseau, who called this affection stomachal vertigo—*vertigo a stomacho laeso*—that dyspepsia plays an important part in many of the cases seen. Gout and influenza are also well-known qualities in its production, particularly in patients where there may be overtaxing of the mental faculties and anxiety of mind.

With regard to treatment, we must endeavour to remove the exciting cause, be it gastric, gout, or neurasthenia. I avoid quinine and sodium salicylate owing to their well-known sequelae; I consider strychnine the remedy *par excellence*, alone or given in conjunction with dilute hydrobromic acid, with counter-irritation behind the ear by a stimulating liniment or blister, followed later by galvanism. In an obstinate case, on the advice of my friend the late Mr. H. Bendelack Hewitson, a seton was introduced behind the ear, and worn for some time with success. Irksome and painful as the wearing of a seton is, I should certainly recommend its trial before advising the more radical operation of destroying the labyrinth, which should only be carried out as a last resource.

J. Fletcher Horne, M.D.St. And., F.R.S.E.,
Honorary Consulting Surgeon, Beckett Hospital, Barnsley.

MAMMARY CANCER RECURRING SIXTEEN YEARS AFTER OPERATION.

With reference to Dr. D. McNeill's case of mammary cancer recurring and causing death fourteen years after the primary operation (page 841), I lately lost a patient from the same cause, on whom the original operation was performed on October 9th, 1891; her death, from recurrence, took place at the age of 55, on June 11th, 1908, sixteen years and eight months! In my case subsidiary operations were performed in 1895, 1897, and 1898.

Old Elvet, Durham. Selby W. Plummer.

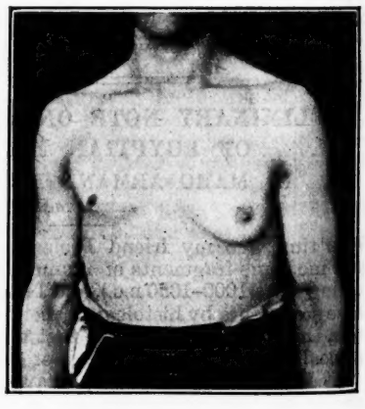
Reports
on
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

ROYAL HAMADRYAD SEAMEN'S HOSPITAL, CARDIFF.

APPARENT UNILATERAL DEVELOPMENT OF THE MAMMA IN THE MALE.

(By Joseph H. Whelan, M.D., R.N. (ret.), Medical Superintendent.)

C. A., aged 26, A.B., a bright, intelligent Swede, presented himself at the hospital on February 18th, 1909, with a well-developed, apparently female type of breast on the left side, well shown in the photograph. He stated that eight years previously it was much the same as that on the right side, which is the usual rudimentary male organ. Since then—that is, practically during his sexual life—it had gradually and painlessly enlarged symmetrically. The areola was large and the nipple prominent. He said that he had felt no subjective sensations in the latter at any time, that it was not erectile, though at times it exuded a clear fluid; but he was naturally reticent on the subject of his peculiarity. He was very desirous to have the organ removed, as it was the cause of unpleasant attentions from his comrades on board ship. In other respects he was entirely a well-developed male.



On February 24th I removed the breast, which weighed in the fresh state just under ½ lb. It was perfect in form and appearance.

I sent the specimen to Professor David Hepburn, F.R.S.Edin., of the University College, Cardiff, who took a great interest in the case from an anatomist's point of view. The following was found on dissection: The superficial surface of the specimen was covered by subcutaneous fat, and on removing this layer it presented a convex surface with depressions suggesting lobulation, spreading from the nipple as a centre. The deep surface was smooth and fairly flat. On section the naked eye detected no appearance of cysts, and the colour of the mass was uniformly white. By the microscope the tissue was simple fibrous material, but scattered through it were dilated ducts lined by nucleated epithelium. It had been hardened and preserved in strong formalin solution.

Reports of Societies.

MANCHESTER MEDICAL SOCIETY.

Wednesday, April 7th, 1909.

Mr. W. COATES, President, in the Chair.

Excision in Suppurative Arteritis.

MR. J. E. PLATT related the case of a boy aged 4 years, admitted to the Royal Infirmary with a very extensive deep cellulitis of the forearm. Incisions were made on the day of admission, but two days later haemorrhage occurred and the brachial artery was tied. Eight days afterwards haemorrhage again occurred, and it was therefore decided to open up the wounds and search for the bleeding vessel. The upper part of the radial artery was found to be in a sloughy condition, and 2 in. of the vessel were removed, the divided ends being ligatured with catgut. The patient, although greatly exhausted at the time of operation, afterwards recovered well and the functional use of the arm was perfect. In a similar case which he brought before the Society fifteen years previously he had removed 4 in. of a sloughing brachial artery with complete success, the patient making a perfect recovery. He pointed out that this method of treatment was merely an extension of the ordinary rule for the treatment of secondary haemorrhage—namely, dealing with the vessel at the site of the bleeding—and that in the cases mentioned it was the only alternative to amputation of the limb. The method was more likely to be of use in the case of the arm than of the leg, owing to the freer collateral circulation.

Radiography of the Kidneys.

Dr. W. J. S. BYTHELL, in a paper upon the radiography of renal and ureteral calculi, gave examples to show the advances made in *x*-ray work, whereby it was possible to distinguish the size and structure of the kidney itself, and thus to a large extent make out the pathological condition of that organ. Such cases included several of pyonephrosis and tuberculous kidney.

Chronic Alcoholism.

Dr. GEORGE ASHTON, in a communication on the hypodermic injection of atropine and strychnine in chronic alcoholism, said he had tried this treatment in three cases, all confirmed alcoholics. The solution used was a mixture of liq. atropin. sulph. and liq. strychnin. hydro. in the proportion of 1 to 4. Five minims of this solution were injected twice daily into the outer surface of the calf of the leg. The first patient had seventy injections, the second had thirty-four injections, and the third thirty injections. The general health was considerably improved, but the underlying disease—the craving for alcohol—was unaffected. His patients strongly objected to the repeated pain of the injections and to the dryness of the mouth, caused by the atropine. He had reluctantly come to the conclusion that the treatment was absolutely useless.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Friday, April 16th, 1909.

Sir PATRICK MANSON, K.C.M.G., President, in the Chair.

The Etiology of Beri-beri.

A PAPER on beri-beri was read on behalf of Dr. L. BRADDON, of the Federated Malay States, who showed that the first noticeable fact in the etiology of the disease was that it attacked only rice eaters, and next claimed that only those were attacked who ate rice of a certain kind. If rice was husked, and allowed to remain lying in bags, it developed a poison which induced beri-beri. Tamils, of whom there were over 150,000 in British Malaya, never suffered from beri-beri, and this immunity he believed to be due to the fact that the rice they used—their staple article of food—was treated in a different way. While in the husk the rice was "cured" or parboiled and dried, and he believed that in this way the development of the noxious agent was prevented. In the endemic area 97½ per cent. of all cases of beri-beri occurred in Chinese, who always ate uncured rice. Fletcher had shown at the Selangor Lunatic Asylum that of 120 lunatics who were fed on uncured rice 43 developed beri-beri, while of 140 who were fed on cured rice only 2 were affected. Still more conclusive were the experiments which had been carried out at Durian Tikus by the officers of the Federated Malay States Research Institute. A working party of 300 men were divided into two groups; half were fed on cured rice for a year, and half were fed on uncured rice for a year. Of the former none were affected; amongst the latter beri-beri was very prevalent. The diets were then reversed, with the consequence that those who had been free before were now attacked, and vice versa. Moreover, by moving the groups of labourers about the element of place infection was excluded. Not only was cured rice a preventive of the disease, but it was a powerful remedy for beri-beri when once established; and in the Singapore Lunatic Asylum, and in other places in Malaya, they had excellent results from this treatment. Fresh rice—newly-husked rice—was innocuous, and this he thought indicated that when the husk was removed after some time an epiphyte developed on the outside of the grain and generated a nerve toxin. The conditions which had been described as beri-beri in non-rice eaters were not clinically allied to the beri-beri of the Eastern tropics; in uncured rice which had been husked for some time would be found the true cause of the disease.

A paper on the same subject was read for Dr. A. R. WELLINGTON of Sarawak. It detailed his observations in the mining and agricultural districts of that Dependency. He had carefully examined the theory that bed-bugs were carriers of infection, but he had been unable to find much evidence in support of that view, or, indeed, of any other theory of parasitic infection. Nevertheless, since bed-bugs in the General Hospital at Kuching had been exterminated, there had been no fresh cases there. Beri-beri was unknown amongst the Dyaks in their own country—the interior of Borneo—but if they came to Sarawak, they suffered as much as the Chinese. In Simanggang Gaol and in Baram the disease had been checked by feeding the inmates on fresh rice. On the other hand, at Brooketon coal mines, beri-beri was at one time rampant. Now there was none, although no change had been made in the rice which was used; this experience had been repeated in many instances, notably at Poak and at the Bidi Mines. Instances of apparent infection, mediate or contact, had been noted, and examples were given. There were also instances in which place infection seemed to be the predominant factor.

Dr. CARNEGIE BROWN said that the theory that beri-beri was caused by some alteration in rice had been frequently investigated—especially in Japan—and had been rejected on the grounds that no change could be detected in the rice, and that it was not in accord with clinical facts. These conclusions, however, possibly went too far. Beri-beri had been eradicated from the Japanese navy by general sanitary measures and by the addition of considerable quantities of animal food to the dietary, and there had been no special treatment of the rice ration, which was still issued; but its amount must have been decreased, and Dr. Braddon's argument of diminished toxin was a reasonable one. Among the difficulties in the way of the rice theory were, first, that a disease indistinguishable from beri-beri was often seen in persons of whose diet rice formed no part; and, secondly, that the incriminated rice was the principal food of large communities who lived in the endemic area, and never suffered from the disease. The evidence supplied by asylum neuritis, ship beri-beri, and similar conditions could not be lightly brushed aside by the affirmation that they were not beri-beri. In Italian sailing ships, where rice was largely eaten, beri-beri was unknown; in Norwegian ships, where rice was never consumed, and the sailors preferred rye and wheaten bread to anything else, the disease was so common that a commission had been appointed to report on its prevalence. The most prominent clinical feature of beri-beri was that it was a disease of association. In the districts and towns with which Dr. Braddon dealt there were thousands of Chinese households who lived all their lives on the rice which was said to engender beri-beri, and

yet, so long as home life continued, not one member of the family was attacked by the disease. On the other hand, if a man from one of these houses went to work on a mine, or if he had the misfortune to get into gaol, or into an asylum or hospital, he was extremely likely to acquire beri-beri. The feeding experiments which had been detailed so clearly by Dr. Braddon were, however, very striking.

Colonel Leishman said that personally he had always been inclined to think that the epidemiology and the clinical features favoured the idea of protozoal infection, but the most careful researches appeared to furnish no support of this theory. Meantime there was good reason to think that there was some connexion between beri-beri and rice, and he believed that at some future time the association would be proved.

Dr. James Maxwell (Formosa) said that in that country they had a certain percentage of beri-beri, although the people lived in their own houses, and always husked their rice as they wanted it.

Dr. G. C. Low thought that ship beri-beri could not be separated from tropical beri-beri. It was certainly not scurvy, and he fully believed that it was identical with the beri-beri of which Dr. Braddon spoke.

Dr. T. S. Kerr said that since husked rice had been introduced into the asylums and hospitals of the Straits Settlements there had been no fresh cases of beri-beri amongst patients admitted for other diseases.

Sir Patrick Manson said that Dr. Braddon's theory was supported by a strong array of figures and facts; it was not, however, quite complete. One incident looked as if the infection was place-infection and independent of the diet. The questions raised were so important that the discussion would be continued at the next meeting.

ROYAL SOCIETY OF MEDICINE.

Section of Diseases in Children.

At a meeting on March 26th, Dr. E. Cautley in the chair, Mr. Macleod Yearsley showed a case of *Word-deafness* successfully treated. Originally the child could not appreciate heard speech, which she merely repeated aloud; when, however, she was able to see the speaker, and lip-read, the speech was immediately answered rationally. The word-deafness apparently prevented the higher centre being effective. After long practice heard phrases were now understood and answered without the motor response of repeating the question. The exhibitor thought it difficult to explain the case on any hypothesis other than that of weakness of the auditory centres. Dr. Edmund Cautley showed the brain from a case of *Cerebral diplegic spasticity*, which had been shown to the Section on February 20th, 1909. The whole of the frontal and parietal regions was converted into a bilateral cystic form, bounded mesially by a wall containing a moderate amount of brain substance. According to the history, the child had been healthy till the age of 7 weeks, and then had an illness which could be accounted for as encephalitis or meningitis. The *post-mortem* appearance made it more probable that the condition was congenital and dependent on developmental error in the prosencephalon. Dr. Langmead said that there was a specimen in the museum of Great Ormond Street Hospital which closely resembled the case. It showed some narrowing of the small cerebral vessels. Dr. G. Carpenter said he had neither seen nor read of a case like it, but had seen a lobular cystic condition, which Dr. Ernest Jones reported was, in his opinion, syphilitic. During life the child had been spastic, with head retraction, and showed atrophic patches in its choroid. Dr. Whipham showed a case of *Transposition of the viscera* in a girl aged 6. There was a mitral systolic murmur at the heart's apex. The child had had chorea twice. The Chairman thought that such cases were not so uncommon as one was led to believe in books. He believed that prognosis of life was just as good as if the heart were not transposed. Dr. F. J. Poynton and Dr. Langmead thought that if the heart was on the right side of the body there was greater liability to endocarditis. Dr. Parkes Weber asked whether proposers for life assurance should be rated up if the viscera were transposed. Dr. Whipham thought not. Dr. Parkes Weber referred to cases in which several children of the same parents had had jaundice, some of them having died. Dr. Porter Parkinson read a paper upon three cases of *Henoch's purpura*. In Case I the patient, a boy aged 8, was treated with two injections of horse serum without any improvement; he eventually recovered, but when discharged the urine was still albuminous. In Case II the treatment was at first calcium chloride, and later three injections of horse serum. Two fresh groups of purpuric spots appeared while the child was taking calcium. In Case III, a boy aged 6, as the abdomen became distended, it was thought that intussusception might be present. The abdomen was opened, but none found. The diagnosis then lay between measles and Henoch's purpura. The exhibitor inclined to the latter diagnosis, but the absence of blood and albumen in the urine was unusual. The case supported a suggestion of Mr. Hugh Lett that it was advisable not to operate for intussusception in a case of Henoch's purpura unless an abdominal tumour could be felt. Mr. Hugh Lett said the presence or absence of intussusception in Henoch's purpura was very important. He had reported a case in which intussusception had developed during the illness, and was reduced by operation. Seventeen days later another intussusception occurred, and the child died. He thought that the crucial feature to be relied upon was the presence of a sausage-shaped tumour, and that there should be no operation where a tumour was not felt. He had operated upon 28 cases of intussusception, in all of which he felt a tumour either from the abdomen or per rectum. In two or three of them he could not feel it without an anaesthetic. Surgical operation in Henoch's purpura was a very serious matter, and in some cases the patient had died of haemorrhage from the wound. If he saw another case of undoubted intussusception with purpura, he would be inclined to try injection before operation. Dr. Langmead said that a tumour might be present simulating intussusception, but due to extravasation of blood; and Dr. E. I. Spriggs referred to another case showing this condition. The Chairman thought the term "Henoch's purpura" should be dropped, as the disease was simply purpura haemorrhagica with abdominal symptoms; and Dr. Pernet agreed.

Therapeutical and Pharmacological Section.

At a meeting on April 6th, Dr. Burton Brown, President in the chair, Dr. Gordon Sharp, in a paper on *Heart tonics*, said that almost the only way of judging of the effects of digitalis or other heart tonic was an indirect one—namely, by observing whether the drug would remove a cardiac dropsy after rest in bed and nursing had failed. To credit any substance as a heart tonic because it appeared to tone up the pulse, lessen the area of heart dullness, or relieve palpitation was evidence of an uncertain kind, because there was room for so much divergence of opinion on these points. Digitalis acted much more quickly than was generally supposed. The tincture was the handiest preparation. If rejected the drug could be given in pill form. It acted quickest when it was given in doses as large as could be tolerated. Digitalis was the only real heart tonic. The diuretic action of strophanthus seemed to be direct, namely, on the secretory tubules of the kidney, as opposed to the indirect diuretic action of digitalis (and in part so in squill) through the circulation. Although it did not act in cardiac dropsy like digitalis it might by its stimulant action on the kidneys produce a certain amount of diuresis. Given in 20 to 30 minim doses of the tincture, it had in many cases of cardiac dropsy a general analgesic action but no effect on the dropsy. It gave comfort to the patient.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Obstetrics.

At a meeting on April 2nd, Dr. E. H. Tweedy, President, in the chair, Dr. Purefoy showed a small uterus removed for *Recurrent haemorrhage* from a patient, aged 50, the mother of some children. She had been curetted in the first instance, and some thickened membrane had been removed. Some improvement was made, but the haemorrhage recurred. Atmocausis was applied, but after another violent recurrence the uterus was removed. The specimen showed enormously thickened uterine walls, and

the position of the endometrium indicated in section by a thin line showing almost complete absence of endometrium. Dr. HOLMES recalled a case of Sir Arthur Macan's in which the haemorrhage recurred after atmocausis and hysterectomy was performed. The vessels of the uterus were distinctly atheromatous, and it was doubtful if atmocausis would cure in such a condition. Dr. JELLETT expressed great doubt as to the value of atmocausis in cases in which there was no endometrium. The haemorrhages apparently came from blood vessels more or less diseased, and the superficial effect of atmocausis could not be permanent. He did not see how a second application of atmocausis would produce more than a temporary result, as in the first application. He thought there was nothing left in such cases but hysterectomy. Sir WILLIAM SMYLY said he saw a great theoretical difference between atmocausis and curetting. In the latter they removed the thickened membrane, and hoped that healthy membrane would grow. If not, they had to curette again. Atmocausis, however, destroyed the membrane and tissues of the uterus, and the depth of the slough depended on the heat of the steam and the duration of the application. If they did not get a sufficient slough the first time, they had to repeat the application. In an old woman the obliteration of the uterus, which atmocausis was apt to cause, was desirable. He thought it was a very good method, and it was not so severe as hysterectomy. Professor ALFRED SMITH said the effect of atmocausis was rather speculative, and in the great majority of cases they would find the best treatment to be removal. The PRESIDENT said that in two cases he "atmocaused" two young women twice each, after they had been curetted ineffectively. The atmocausis failed on the first application and succeeded on the second in each case. He seldom "atmocaused" for more than fifteen seconds. It was better to do too little than too much, and on the second occasion they might give twenty seconds with better results.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.—At a meeting on April 6th, Dr. MAY THORNE in the chair, Dr. LILIAS HAMILTON spoke of the value of *Open-air professions for women* physically unable to earn their living in towns. As warden of a horticultural college she had noticed that delicate women improved enormously in health even after one term's work. She considered that horticulture in all its branches was very suitable as a profession for women suffering from weak eyes, bronchitis, dyspepsia, and various nervous complaints, and as the demand for women gardeners was much greater than the supply, they could be sure of earning a living when their training was completed. Miss SHEPPARD opened a discussion on *The examination of the eye in school children* by relating some of the early history of the movement. Several years ago she had examined the eyes of about 1,000 children in a school at Whitechapel, and found that about 33 per cent. had serious defects. The first effort at systematic examination of all children of school age was made in 1902 by the London School Board, who appointed six medical officers for that purpose. Miss LENEY said that she had examined 7,600 children, and found that 70 per cent. had some eye defect—generally an error of refraction; 5 per cent. had some external disease of the eye, and 2½ per cent. suffered from strabismus. Miss ROBERTS gave an account of the unsatisfactory condition existing in the large majority of the London schools at the present time. In Standards i to iv the teacher examined the vision, taking both eyes together, so that if one eye were blind this might not be discovered until the child reached the higher standards. If the vision were less than $\frac{6}{12}$ the child was examined by the medical officer, who also examined Standards v to vii. Even with this method about 10 per cent. of the children were found to have serious defects; only about one-half were treated, but now the Children's Bill had come into force an improvement might be hoped for in this respect Miss MOFFATT commented on the difficulty of obtaining treatment for children in the country, where expense was incurred in taking them to the nearest hospital town. Miss THORNETT remarked that many of the slighter cases of defective vision depended on ill health due to the wretched conditions under which the children lived; in many cases fresh air was more needed than spectacles.

Rebiews.

OPHTHALMOLOGY.

THE charge is frequently brought against those who confine themselves to one particular line of practice that they look upon their patients as if they consisted solely of the particular part or organ to which they direct their special study, and there is no doubt that this charge is sometimes justified. The most successful practitioner is he who can take a broad-minded view of the condition of the patient himself, and who uses all the information he can gather for his patient's benefit. Possibly ophthalmic surgeons, whose domain in practice is so small an organ, are sometimes apt to overlook the underlying constitutional causes of some ocular manifestations of disease, and in order to prevent any one falling into such an error we cannot do better than commend to ophthalmic surgeons an excellent little book by Dr. MAITLAND RAMSAY on *Diathesis and Ocular Disease*.[1] Three chief diatheses claim attention—the neurotic, the scrofulous, and the arthritic. The description of these three types is most lifelike, and when reading these interesting chapters, it is easy to conjure up in one's mind the exact type of person described. Take the neurotic diathesis for example:

> Of spare build, restless and unwearying, with a mind so active that it allows neither him nor his immediate circle any repose, he feels pain very acutely, and consequently what may in reality be a very trifling ailment assumes to him very serious proportions. His nerves overdeveloped, tyrannize over his body, and his excellent memory makes him a terror to the young practitioner, whom he never allows to forget anything he may have told him.

How true to life is this description, which is quoted only as an example of the graphic manner in which the author portrays his types. The condition of the eyes is next described, Chapter V dealing with inflammation of the conjunctiva and sclerotic, and Chapter VI with inflammation of the uveal tract; here the author has a wide field, and discusses the various abnormal states of the system which give rise to iritis and choroiditis; kidney disease and glycosuria are considered in dealing with inflammations of the retina and optic nerve. With regard to toxic amblyopia and retrobulbar neuritis, the author does not look upon tobacco and alcohol as being so much the actual cause of the disease as rather causes of defective metabolism and excretion of the toxic products; in support of this view he cites the case of a woman aged 45 who had never smoked nor taken alcohol, and yet who had all the symptoms of toxic amblyopia with gouty iritis later on; she was of the sanguine arthritic diathesis, and quite recovered with careful dieting and an antigout treatment. This case tends to confirm the treatment of toxic amblyopia recommended by Charles Wray, who makes his patients drink large quantities of water and take a good deal of exercise: by these means he has even cured patients who would not give up tobacco, though those who will give it up and carry out the treatment are cured in a quarter of the time; Dr. Maitland Ramsay lays great stress on the condition of the urine which always contains oxalic acid crystals and an excess of urates. The final chapter, on glaucoma, contains some very sound advice for the general practitioner and for the ophthalmic surgeon. The book, like others by the same author, is lavishly illustrated. Several of the pictures are taken from his *Atlas of External Diseases of the Eye*, and all of them are produced as plates, of which there are seventeen. The book is well worth reading and studying; it is really original and calls attention to an aspect of ophthalmology which is only too frequently neglected to the great detriment of the patient.

Professor AXENFELD of Freiberg has so recently been the honoured guest of our Association that any work issued under his direction has for us a special interest. His new textbook[2] is a symposium, the various chapters,

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[1] *Diathesis and Ocular Disease.* By A. Maitland Ramsay, M.D., Ophthalmic Surgeon to the Glasgow Royal Infirmary, etc. London: Baillière, Tindall, and Cox. 1909. (Cr. 8vo, pp. 192; plates 17. 3s. 6d.)

[2] *Lehrbuch der Augenheilkunde.* Herausgegeben von Theodor Axenfeld. Jena: Gustav Fischer. 1909. (Sup. roy. 8vo, pp. 694. Broschiert M.14, gebunden M.15.)

written by eleven professors, being addressed not to the specialist, but to the general practitioner and the student. The work begins with a good account of therapeutic methods, by Axenfeld, who also writes the second chapter, on the objective examination of the eye. This subject is treated in a clear, masterly manner, and the chapter contains many hints and minutiae which the student is rarely taught and has generally to learn by experience. Ophthalmoscopic diagnosis, by Elschnig, is excellent, especially when he discusses and explains the various appearances seen at the nerve entrance—a subject to which he has given great attention—but the plates are very poor; that of the normal fundus is, perhaps, one of the worst, the macula being shown as a dark-brown oval surrounded by a white mass of exudate. In the chapter on subjective testing, by Heine, the elementary explanations of the optical properties of prisms and lenses, well known to every student, might have been omitted, and more space devoted to refraction, which is most inadequately treated. The cardinal value of retinoscopy is not insisted upon, nor are we told that this test can be carried out at arm's length as well as at a distance of over a metre. Lister's mirror, which greatly simplifies the process, seems to be unknown to the author. Maddox's rod is not mentioned, and Worth's work, which marks an epoch in our knowledge of squint, is barely alluded to. The statement that occlusion of the best eye to develop the vision of its fellow has been generally abandoned on account of the poor results obtained contains a double error; the method is being more and more widely used, and the results are often very good. Bielschowsky, who writes the chapter on squint and heterophoria, is obviously well acquainted with Worth's work; his views are diametrically opposed to Heine's, a curious example of divergent opinions in a book intended for the general reader! Von Hippel's description of trichiasis operations shows great want of practical experience; Waldhauer's operation, which always causes a secondary trichiasis, is praised, whereas the two best methods—van Millingen's and Snellen's—are not described. Nor do we imagine that any one else uses a keratome for these operations, as is shown in one of the diagrams. Schirmer not only gives elaborate instructions for slitting up the canaliculi and passing probes to cure dacryocystitis—an utterly obsolete, painful, and useless procedure—but states that the results of such treatment are very hopeful! The directions for extirpation of the sac are meagre and inadequate. We are advised to open a lacrymal abscess by an incision "at least 2 cm. long," and when the swelling has subsided not to excise the sac, but to use probes, and attempt to preserve it. Axenfeld on conjunctival disease constitutes a valuable monograph, and Elschnig treats corneal disease in a masterly fashion—in fact, all that is written by these two authors could hardly be improved. Krueckmann writes one of the best descriptions of iritis which we have ever read, while the highly artistic and yet accurate drawings make the condition very clear. But chronic irido-cyclitis is not mentioned, nor is oral sepsis alluded to as a frequent cause. We can find little or no information about central choroiditis; in fact, the important subject of macular disease receives very inadequate treatment. Operations are treated so badly that the subject had better have been omitted entirely; the directions are misleading, and the diagrams are in many cases poor. Perhaps the worst is Fig. 364; a cataract section is being made on a microphthalmic cornea with an almost blunt-pointed knife. We are advised to make the incision 1 mm. from the horizontal diameter; this would often result in an unnecessarily large wound. Peters's chapter on glaucoma touches upon the theory of the disease but very inadequately. He still adheres to the notion that excavation is the result of pressure, and states that it is a slow process. He would appear to be unaware that Schnabel has seen total excavation of the disc develop in fourteen days. Taken as a whole, the book cannot be recommended as a guide to the inexperienced; it is very unequal, being in some parts really first class, in others mediocre or worse. In many respects the teaching is not in accord with modern practice, and many conditions are not even mentioned — as an example, "retinitis pigmentosa albescens." Many of the illustrations are most beautiful, and accurately show the disease, others indifferent, and some bad.

RETINAL HAEMORRHAGE.

The monograph we have under review, which gives an account of the anatomical changes found in four eyes affected with retinal haemorrhages enucleated on account of secondary glaucoma, is a thesis for the degree of M.D. written and defended by Fräulein Anna Dahlström at the University of Upsala.[3] The clinical material was obtained from, and the pathological work carried out in, Geheimrat Sattler's clinic at Leipzig. The thesis is illustrated by five plates of the most beautiful water-colour paintings of microscopical sections we have ever seen. They are perfect both as works of art and as clearly showing the changes described in the text.

The scope of the research is purely histological. The four eyes were hardened, imbedded, and cut in serial sections, and from a laborious and painstaking examination of the sections the pathological processes have been reconstructed. The author gives an exhaustive summary of the various theories which have been advanced to account for the onset of glaucoma, in which full justice is done to English ophthalmologists, including the recent work by Henderson of Nottingham. Each theory of glaucoma is criticized very fairly with reference to the changes found in the four eyes examined. For example, Miss Dahlström does not find the enlargement of the lens postulated by Priestley Smith to account for glaucoma. As far as the cause of the high tension found in these eyes can be explained by the result of a careful histological research it would appear to have been due to two factors: (1) An active hypersecretion from the diseased retinal vessels, and (2) an obliteration of the filtration angle, the result of senile changes, sclerosis of the ligamentum pectinatum, and in two at least of the eyes, due to the presence of iritis followed by extensive adhesion between the iris and lens capsule. But in no case were the histological evidences of irido-cyclitis very well marked.

The first cause suggested is open to the criticism that the classical researches of Leber and those of most modern investigators afford no confirmation whatever of the theory that any appreciable quantity of the intraocular fluids transudes from the retina or choroid. The almost exclusive source is the ciliary body, which in the eyes examined was small and atrophic. But, in any case, the question is not of any great moment; for the examination of an eye which is extensively diseased, in which there are large haemorrhages and in which the high tension is only the final stage of a definite pathological history, cannot be expected to elucidate the difficult and obscure problem of the genesis of primary glaucoma. At present, no one hypothesis has been formulated which is entirely satisfactory and which accounts for all the observed facts. The truth probably is that many etiological factors are responsible for the disease, and that in any given case these factors participate to a greater or less extent. In one case a large lens may be the prominent feature, in another high blood pressure, associated with diseased arteries, may determine the onset of high tension.

SYPHILIS.

The second volume of the *System of Syphilis*[4] opens with a monograph by Mr. D'Arcy Power on the surgery of syphilis, occupying 251 pages and illustrated by 35 plates, many of which are coloured. The title chosen must be taken in a wide sense, indeed as practically covering a great part of the field of syphilis. For it must not be forgotten that in this country syphilis was for a long time the appanage of the surgeon and was outside the province of the physician proper. Now that it is known, though frequently lost sight of, that the lues venerea is responsible for a large amount of visceral morbidity this monopoly no longer holds good. Mr. Power has confined himself to the parts of the organism which claim the attention of surgery, such as the bones, joints, teeth, rectum, and so forth. Altogether this part of the volume will well repay perusal. It will be remembered that a very complete historical account of syphilis appeared in Volume I, so that the

[3] *Anatomische Veränderungen in vier wegen Druchsteigerung enukleirten Augen mit Netz haut hämorrhagien.* Von A. Dahlström. Leipzig: A. Edelmann. 1908. (Med. 8vo, pp. 148; Taf. v.)

[4] Oxford Medical Publications. *A System of Syphilis.* Edited by D'Arcy Power, M.B., F.R.C.S., and J. Keogh Murphy, M.D., M.C., F.R.C.S. London: H. Frowde, and Hodder and Stoughton. 1908. (Royal 8vo, pp. 395. Plates 35. £2 2s.)

historical survey which serves as an introduction to Mr. Power's article has led to some unnecessary overlapping. But it must readily be conceded that his short review makes very good reading. The unfortunate experiment of John Hunter is insisted on. This cannot be done too often, for such hasty generalizations as Hunter's based on limited evidence, however convincing it may appear to the observer, have led to dire results. There is, again, overlapping as regards the treatment of syphilis, a subject also dealt with by Colonel Lambkin. Mr. Power does not mention that sodium sozoiodolate can be dissolved in water by the addition of a little ammonium iodide, and is employed in that form for intramuscular injection. Colonel Lambkin starts his paper with the question, "Is it necessary to treat syphilis?" Though admitting the possibility of spontaneous recovery, a categorical "Yes" must be given to such a question, and the author mentions the serious complications that may ensue when treatment has been omitted. It must also be emphatically pointed out how dangerous it is to be deluded by so-called benign syphilis. Colonel Lambkin refers to Fergusson's account of syphilis among our troops in Portugal, but this point has already been criticized in the BRITISH MEDICAL JOURNAL (Syphilis in the Uganda Protectorate, October 3rd, 1908, p. 1037), and need not be dwelt upon in this place. Colonel Lambkin is not quite correct in stating that Professor Fournier employs almost entirely the ingestion method. The outbreak of syphilis in Uganda forms the subject of another paper by the same author, which is instructive reading, but the occurrence and the various letters written on the point must be well known to our readers. Dr. W. J. Gow deals with syphilis in obstetrics in a satisfactory manner. He appears to lean towards the maternal origin of congenital or hereditary syphilis as opposed to the paternal. The evidence certainly appears to support the former very strongly indeed. The work of Matzenauer, reviewed in these columns some few years ago, should be read by those interested specially in the subject of the heredity of syphilis.

In his recent book on *Syphilis*,[5] Mr. BEDDOES gives a very good and readable survey of the disease in its various forms and phases. The subject is dealt with in a clear and practical manner, so that the book may be recommended, but one or two points may be touched upon in passing. In the paragraphs on pathology plasma cells do not appear to be mentioned. As to differential diagnosis of the cutaneous manifestations, some diseases, such as pityriasis rosea, might, perhaps, have been a little more explicitly discussed. Although the author recognizes the utility of intramuscular injections in a general way in syphilis of the nervous system, it would have been desirable (p. 164) to insist on the value of the insoluble preparations in this respect. With regard to the marriage of syphilitics, a good deal depends on the opinion held as to so-called paternal heredity. To those who consider that paternal infection of the child may occur, the periods mentioned by the author will appear all too short. It must be borne in mind, however, that evidence distinctly points to congenital syphilis as being derived solely through a syphilitic mother, who indeed may present no sign of syphilis. Recent investigations in this direction by means of Wassermann's reaction have given positive results in instances of the latter description. Again Langlebert (cited by Matzenauer, *Die Vererbung der Syphilis*, 1903, p. 81) has recorded a case of a man with quite recent florid syphilis, who notwithstanding married. His wife did not contract syphilis, and bore a healthy child, which was subsequently accidentally infected from a syphilitic lesion of the lip of its own father. Again, a man suffering from recent syphilis may beget a healthy child, and subsequently infect his wife (von Düring, cited by Matzenauer, op. cit., p. 87; see also Discussion on Inherited Syphilis, Reports of the Society for the Study of Disease in Children, vol. viii, 1908, p. 52 et seq.). But to be on the safe side longer periods of prohibition of marriage are necessary, as the author admits. This important question, however, is one that cannot be discussed in this place.

[5] *Syphilis: Its Diagnosis, Prognosis, Prevention, and Treatment.* By Thomas Pugh Beddoes, M.B., B.C.Camb., F.R.C.S.Eng. London: Rebman. 1909. (Cr. 8vo, pp. 232. 5s.)

The discovery of *Spirochaeta pallida*, since renamed *Treponema pallidum*, and the extraordinary amount of work connected with it, has quite thrown into the shade the various micro-organisms previously asserted to be the cause of syphilis. Among the latter, the bacillus of VON NIESSEN,[6] which has never been recognized by any other observer, as far as one knows, had, it was thought, quite disappeared into the bacteriological limbo, but its discoverer has never acknowledged defeat and now dons his armour once more, challenging any and every opponent of his syphilis bacillus. Unfortunately, the treponema appears to be now so strongly entrenched as to defy all competitors and to be adjudged victor. The industry and pluck of Dr. von Niessen must be acknowledged, especially in this country, where the sporting instincts are part of the national genius. One looks through the numerous plates and wonders at the enormous range of variation in the pleomorphism of the particular bacillus depicted. Polymorphism has in micro-organisms long been an admitted fact, but here the protean morphology recalls to mind the man who did not believe in ghosts because he had seen so many. From a note opposite Plate viii von Niessen appears to entertain the opinion that the spiral forms of his bacillus are identical with Schaudinn's *Spirochaeta pallida*—a point that Schaudinn did not admit when preparations were submitted to him by von Niessen. In addition to the photomicrographic reproductions of the bacillus, there are numerous illustrations of results of its inoculation in various animals, cultures, and so forth. The very complete bibliographical lists up to 1895 and from 1895 to 1908 may be found valuable. The work is excellently got up, and redounds to the credit of the publisher and the printers.

Dr. SPILLMANN'S essay on syphilis of the bones[7] is based in part upon information and specimens supplied by Fournier, whose name should be warrant for its quality. It cannot be said, however, that the book contains any serious contribution to our knowledge of the subject or that the author has devised any striking plan for guidance through the intricacies of its ramifications. It is surprising that in a book which is dated 1909, there should be no mention of the *Spirochaeta pallida*, even when an opinion is hazarded that the nocturnal incidence of the osteoscopic pains may bear some definite relation to the special qualities of the "causal agent" of syphilis. The predilection of the virus for lymphoid tissues and more particularly for the bone-marrow is noted, but there are no observations upon the recovery of the spirochaete therefrom. Upon the reaction of the central and subperiosteal marrow—for the deeper layer of the periosteum is classed with the marrow proper—great stress is laid in considering the initiation of the early secondary manifestations in the bones, and in fact of all the sclerosing and porotic changes.

The author does not surmount the difficulty of distinguishing histologically between the discrete and diffuse gummatous changes in the bones; he relies for explanation of the softening of the central parts, as also for the death of bone, too much upon the mechanical effects of pressure, and too little, if at all, on the changes in the vessels themselves; nor does he allow anything to the possible direct lethal action of the virus. Rickets is mentioned, but only to dismiss it, as a factor in determining the special selection of bone by the syphilitic poison. To speak as he does of suppuration as an exceptional event is surely putting the case too strongly.

The account of syphilis of the spinal column and its simulation of Pott's disease is very good, both from the morbid anatomy and clinical points of view. In dealing with the suppurative complications of naso-cranial syphilis the occurrence of septic pneumonia and empyema might have been mentioned. It is an interesting clinical observation that the bone pains, when attacking the sternum and ribs, instead of the more commonly affected tibia, may be mistaken for an asthmatic crisis or for angina pectoris.

The chapter on diagnosis is as good as any part of the book, but, as might be expected, it would be easy to add to the list of conditions likely to be confused; there is no mention of the "quiet necrosis" described by Paget, which

[6] *Der Syphilis-bacillus. Seine Geschichte, Literatur, Kultur, und spezifische Pathogenität für Tiere und Menschen.* Von Dr. med. von Niessen. Leipzig: O. Nemnich. 1908. (Double cr. 4to, pp. 84. Tafeln xxxv. M. 25.)

[7] *Syphilis Osseuse (Syphilis Acquise).* Par le Dr. Louis Spillmann. Paris: G. Steinheil. 1909. (Post 8vo, pp. 134; 12 plates. Fr. 3.50.)

occurs, as Erichsen pointed out, after fevers; nor of osteitis deformans, which has been confused with chronic diffuse syphilitic osteitis. A little too much stress is laid on the presence of enlarged glands as serving to distinguish a sarcoma from a syphiloma of bone, and it is open to question whether radiography is quite the infallible touchstone it is here represented to be.

Dr. Spillmann excels in his descriptions of the appearances of gross lesions, and of dried specimens of the bones, which are here illustrated by some excellent photographs. The merit of the book lies in its usefulness as a compact essay on this particular aspect of a protean disease, and when it is mentioned that it forms one of a series dealing with many sides of the question it will be plain that the limited task essayed has been carried out with some success.

SURGICAL TEXTBOOKS.

THE fifth and latest volume of the *American Practice of Surgery*,[8] an encyclopaedic work, is the first of the series devoted to regional surgery, and fully maintains the high standard of excellence which has hitherto characterized the System. The volume is bulky, and a large portion of it is taken up by a very able contribution on the surgery of the head, by Dr. E. Archibald, of Montreal. In this and also in a supplementary article on the surgery of the cranial nerves, the author brings to bear on the discussion of many interesting questions the results of much personal experience and of a wide study of the literature. Here the reader will find full and most reliable instruction on the latest views on old problems in cranial surgery, and on modern development in diagnostic and therapeutical methods. The length of this section is fully justified, not only by the importance of the subject, but also by the rapid advance in so many of its branches. Under the heading of "Surgical Affections" are included, amongst other non-traumatic lesions, hydrocephalus, syphilis (both cranial and intracranial), chronic forms of meningitis, and even spontaneous cerebral haemorrhage. Much space, of course, is given to tumours of the encephalon, the radical removal of which, except in cases of infiltrating malignant forms, may, the author concludes from a review of recent statistics, be regarded as a legitimate operation. In his practical and well-illustrated article on the surgery of the face, Dr. de Nancrède deals very inadequately with modern methods of treatment by light, radium, and the *x* ray, which, in certain affections of this region, have certainly found much scope for beneficial action. The plastic operations on the face, which constitute so much of the surgical work on this region, have received full consideration in other parts of the System, and the subject of hare-lip together with a cleft-palate is discussed in a separate article by Dr. J. S. Stone. In the preparation of his article on the surgery of the eye, Dr. G. Harlan seems to have worked under rather unfavourable conditions, as the whole of this large subject is dealt with in little more than 100 pages. Though insufficient here and there in some important subjects—that of glaucoma, for instance—it is on the whole a useful, practical treatise and affords a good review of the present state of ophthalmology. The article on diseases of the ear, by Dr. R. Lewis, junr., is wanting in some points of both pathological and clinical information, but it contains a lucid and complete section on the mastoid operations indicated in acute and chronic forms of purulent otitis, which, together with contributions on sinus thrombosis and pyogenic brain disease of otitic origin, the former by J. D. Richards, the latter by Dr. Reik, add much to the practical value of the volume. The article in which Dr. F. Hartley describes the different methods of laryngectomy is a further reminder of the great attention that has in this volume been paid to operative surgery.

In preparing a fresh edition of his well-known *Manual of Operative Surgery*,[9] Mr. WARING has carried out in a very satisfactory manner the pleasant though onerous duties that are imposed on a successful author. This work, which is now in a third edition, has been carefully revised, and though much obsolete matter has been omitted, it has, unfortunately we think, been found necessary to enlarge the volume. A decided improvement has been effected by the addition of illustrations, which for the most part compare very favourably with many of the sketchy and diagrammatic drawings that have been carried over from previous editions. Although by its excellence and the wide favour it has gained it may fairly be regarded as beyond criticism, we still hold that this manual contains far too much superfluous matter. If it be considered that it was written as a textbook for classes in operative surgery, it is hard to conceive what service can be done, with this purpose in view, by the retention of the chapter on the methods of warding off wound-infection, and the addition of descriptions of operation which can only be performed on diseased and injured tissues.

The fourth volume of KÖNIG'S System of Surgery,[10] written by Dr. OTTO HILDEBRAND, has now reached its third edition. It covers much the same ground as the first volume of Erichsen under the title "General Surgery," but deals less with treatment; and though, as is stated on the cover, "revised," it gives the impression that little has been added beyond short accounts of such matters as the *Spirochaeta pallida*, spinal anaesthesia, and so on. To give eight pages to hospital gangrene when less than one can be afforded for noma, and only ten for osteo-arthritis, is hardly in accordance with the relative importance of the conditions in the twentieth century. Again, to take random examples, to the account of phossy jaw no mention of its association with tuberculosis has been added; brandy is still advocated in the treatment of delirium tremens; and the section on glanders recalls the writings of French army surgeons on the subject of fifty years ago rather than the cases from recent literature. At the same time there is an excellent description of tumours, and the chapters on injuries and diseases of the tissues afford all the information necessary for those reading for examinations. Our only quarrel with the book is that, instead of mere revision, some rearrangement was required to give it the full value it ought to have.

In its scope and the arrangements of its material, Professor KUESTER'S volume on general surgery and surgical technique[11] differs to some extent not only from English but also from German textbooks on the principles of surgery. It is not a bulky and comprehensive treatise, but the result of a successful attempt to afford within the compass of a single handy volume a good foundation for general surgical knowledge, together with sound instruction on the practical details of modern surgical work. The needs of the advanced student who is engaged in clinical work, and also those of the busy practitioner, for instruction that is concise and yet full and useful, are met by this work, in which the disputable and dispensable are rigorously excluded in favour of subjects of decided practical importance. The first section deals, under the heading of General Surgical Technique, with the details of antiseptic and aseptic methods, with general and local anaesthesia, with the different procedures which in this country are classed as the details of minor surgery, and with the treatment of clean wounds. In the second section, which is devoted to general surgical pathology and therapeutics, there are chapters on morbid growths, on injuries of both the soft parts and bones, and a review of the important subjects of wound infections and general infective diseases. The remaining pages are taken up by a somewhat cursory survey of the surgical diseases of the different structures of the body. The book, of course, like other treatises on general surgery or surgical principles, contains few allusions to the surgical diseases of the

[8] *American Practice of Surgery.* A Complete System by Representative Surgeons of the United States and Canada. Edited by Joseph Decatur Bryant, M.D., and Albert Henry Buck, M.D. In eight volumes. Volume V. New York: William Wood and Co. (Imp. 8vo, pp. 973, illustrations 460. Subscription.)

[9] Oxford Medical Publications. *Manual of Operative Surgery.* By H. J. Waring, M.S., M.B., B.Sc.Lond., F.R.C.S., Senior Assistant Surgeon, St. Bartholomew's Hospital; Consulting Surgeon to the Metropolitan Hospital; Examiner in Surgery, University of London. Third edition. London: Henry Frowde, and Hodder and Stoughton. 1909. (Cr. 8vo, pp. 782, 521 illustrations. 12s. 6d.)

[10] *Allgemeine Chirurgie.* Von Dr. Otto Hildebrand, Professor of Surgery in Berlin. Third edition. (*König's Lehrbuch der Chirurgie*, vol. iv.) Berlin: A. Hirschwald. 1909. (Sup. roy. 8vo, pp. 1008, illustrations 438. M.20.)

[11] *Grundzüge der Allgemeinen Chirurgie und chirurgischen Technik.* For the Use of Practitioners and Students. By Professor Dr. Freiherr v. Kuester, Berlin. Berlin and Vienna: Urban and Schwarzenberg. 1908. (Sup. roy. 8vo, pp. 420, 291 illustrations. M. 10.)

different organs or regions. In his clear and thorough teaching of the latest developments in surgical technique and pathology, Professor Kuester is assisted by a profusion of good original illustrations.

GUNSHOT WOUNDS.

IT may be reckoned to the credit side of the account that Major C. G. SPENCER has drawn largely on the writings of Mr. Makins, whose account of surgical experiences in South Africa has been used by every subsequent writer, for the purposes of his excellent little book on *Gunshot Wounds*.[12] The manual is intended to meet the need for a short introduction to the subject, and will satisfy the requirements of the young army surgeon. The peculiar conditions of naval warfare and the distinctive characters of the injuries, about which we know something since the Russo-Japanese sea fights, will necessitate a treatise of wider range for the naval surgeon; but the material in this book will be valuable to him so far as it goes. In a preliminary chapter on the mechanics of projectiles Major Spencer gives one of the clearest and simplest expositions of this by no means easy subject we have read. There follows an account of the general characters of gunshot wounds which is up to date and has the qualities naturally expected from wide experience. In discussing the "first field dressing," perhaps it would have been well to express boldly the feeling of incomplete satisfaction with the present pattern to be read between the lines. The American plan of having a light metal case sealed after sterilization, and the German and Japanese devices for securing aseptic handling, are improvements valuable enough to call for adoption. The succeeding chapters deal with regional and tissue injuries; that on wounds of vessels is notable in that the fogs of the old and occasionally incorrect nomenclature are not allowed to obscure the clear picture of immediate and remote consequences of injury. The author is no doubt in the right in not saying anything about recent methods of vascular suture, although in the future they may modify practice considerably. There is nothing very new to be said about abdominal injuries, but the routine adoption of masterly inactivity with discriminating resort to operative interference is well argued. It will not be long before the chapter on the surgery of the chest at base hospitals will have to include a description of positive and negative pressure chambers.

PUBLIC HEALTH.

CANDIDATES for the Public Health Diplomas are already well supplied with textbooks, most of which are revised at more or less frequent intervals, so that it requires not a little courage on the part of an author to put forward yet another. The reason given by Dr. GILBERT E. BROOKE for adding to the list is a desire to compress into one volume enough information to enable a candidate to obtain a sufficient knowledge of all the subjects required for the public health examinations. Although we cannot agree with Dr. Brooke as to the propriety of placing in the hands of a student a single volume purporting to contain all that is required for a particular examination, we consider that his *Essentials of Sanitary Science*[13] may still serve a useful purpose. It is not by any means a cram book, though it may very properly be the only book, or almost the only one, to be studied during the month immediately preceding an examination. One of the fullest and most complete chapters is that which deals with geology, and upon this subject the public health student will find sufficient information for examinational purposes. For the most part the statements made by the author are reliable and in accordance with present-day ideas. The chapter dealing with bacteriology might be expanded with advantage. There is no mention of the methods which should be adopted for the bacteriological examination of air, water, or foods, while there appears to be some confusion in the author's mind as to the purely artificial distinction of the words "bacteria" and "bacilli." On page 185 he seems to use the term "bacteria" for non-sporing and "bacilli" for sporing organisms, but he does not consistently maintain this distinction, for on page 198 he speaks of the typhoid *bacillus* and on page 201 he refers to the Klebs-Loeffler *bacillus*. In future editions of this work the author should make it quite clear in his account of the technique of Widal's reaction that it is not a drop of blood taken from a suspected case of typhoid fever which is examined, but of the serum of the blood. He will no doubt also on revision add to the list of theories of acquired immunity from disease, and will not omit to mention Ehrlich's side-chain theory.

In a work written by an engineer upon the cause and prevention of typhoid fever we turn instinctively to that portion which deals with water supplies. Mr. WHIPPLE, in *Typhoid Fever: Its Causation, Transmission, and Prevention*,[14] has shown much praiseworthy industry in gathering together records of the effects of contaminated water supplies upon the incidence of typhoid fever in a large number of towns in America, and he has come to the conclusion that generally speaking a very low typhoid death-rate indicates a pure, and a very high rate a contaminated, water supply. By the aid of diagrams he discusses the influence of public water supplies on the typhoid fever death-rates of cities, and claims to prove that when a city changes its water supply from a polluted river to that of driven wells or constructs filters to purify a contaminated water there then follows a lessened incidence of typhoid fever. Although we are not sufficiently sanguine to expect to extinguish typhoid fever by the abolition, if it were possible, of all bad water supplies, we are in entire agreement with Mr. Whipple in his crusade in favour of a pure water supply. His researches extend over a long period of time and over a large area of country, and he has put together his results and his conclusions in a very able and convincing manner.

NOTES ON BOOKS.

A WELL-KEPT lawn is a beautiful as well as a useful part of a garden, and a photograph of such a one forms the frontispiece to an inexpensive book on *Lawns and Greens: their Formation and Management*, by Mr. T. W. SANDERS,[15] the editor of two gardening papers, and the author of several more elaborate works. The scope of his new book is indicated in the title, and it will be sufficient to add that the author gives special chapters to cricket grounds and golf greens. The latter contains some general observations about laying out a green which are, perhaps, rather too dogmatic, but the sections on the formation of teeing grounds and putting greens will be useful in this day of inland links. The last parts of the book deal with appliances and with miscellaneous data about seeds and manures.

In issuing the first two volumes of their *Scientific Primers—Biology* (Gibson) and *Chemistry* (Tilden),[16] Messrs. Dent have given practical recognition to the acknowledged fact of the growing interest taken by the general public in scientific work. Different attitudes have been adopted by Professor Gibson and Professor Tilden in the two volumes. Professor Gibson has aimed rather at the general public, and has dealt especially with such features of biology as adaptation, sensitivity, and the larger ideas of the subject. He has a remarkable and original chapter on the skeleton from the engineer's standpoint. Professor Tilden has preferred to deal with chemistry as required by

[12] Oxford Medical Publications. *Gunshot Wounds*. By C. G. Spencer. M.B., F.R.C.S., Professor of Military Surgery, Royal Army Medical College. London: Henry Frowde, and Hodder and Stoughton. 1908. (Cr. 8vo, pp. 299. 5s.)

[13] *Essentials of Sanitary Science*. By Gilbert E. Brooke, M.A., D.P.H., L.R.C.P., Lecturer in Hygiene and Examiner in Chemistry and Physics to the Medical Schools of the Straits Settlements. (Kimpton's Essential Series.) London: H. Kimpton. (Cr. 8vo, pp. 426; 62 illustrations. 6s.)

[14] *Typhoid Fever: Its Causation, Transmission, and Prevention*. By G. C. Whipple, Consulting Engineer; with an introductory essay by William T. Sedgwick, Professor of Biology, Massachusetts Institute of Technology. New York: J. Wiley and Sons; and London: Chapman and Hall. 1908. (Post 8vo, pp. 443; 50 figs. 12s. 6d.)

[15] *Lawns and Greens: their Formation and Management*. By T. W. Sanders, F.L.S. London: W. H. and L. Collingridge. (Cr. 8vo, pp. 138. 1s.)

[16] *Dent's Scientific Primers*. Edited by J. Reynolds Green, Sc.D., F.R.S. *Biology*. By R. J. Harvey Gibson, M.A., Professor of Botany in the University of Liverpool. *Chemistry*. By W. A. Tilden, D.Sc., F.R.S., Fellow of the University of London, Professor of Chemistry in the Imperial College of Science and Technology. *Botany*. By Dr. Reynolds Green, F.R.S., Editor of the Series. London: J. M. Dent and Co. (Fcap. 8vo, pp. 128 and 118 respectively. 1s. each.)

the elementary student in the laboratory. He starts with a gross example of the split infinitive in his first sentence, a defect that Messrs. Dent's reader might surely have expunged. Otherwise both volumes are admirably written and admirably produced. The third volume of the series is on *Botany*, and it is written by Dr. Reynolds Green, F.R.S., the editor of the series. He has dealt with the subject from the biological side, and has presented the study of a plant as the study of a living organism; in this way he has made his own book live, in contrast to the dry-as-dust catalogue of names by which a former generation of students was repelled. The remaining volumes of the series are to deal with Astronomy, Geology, Physiology, and Zoology.

The *Formulaire Consultations Médicales et Chirurgicales*, by Professors G. Lemoine and E. Gérard[17] of Lille, the first edition of which was favourably noticed in the Journal (1905, vol. ii, p. 388), has reached a fourth edition. In its new edition the book has been adapted to the new French *Codex* issued last year, and in its preparation the authors have had the co-operation of M. Vanverts, Surgeon to the Lille hospitals. The changes rendered necessary are chiefly to be found in the first part, which deals with the various drugs in alphabetical order; the second part of the book is a therapeutic index with notes on treatment, which preserve the brevity commended in the first edition.

[17] *Formulaire Consultations Médicales et Chirurgicales.* Par G. Lemoine et E. Gérard. Avec la collaboration de J. Vanverts. 4ème édition. Paris: Vigot Frères. 1909. (Fcap. 8vo, pp. 920. Fr. 7.)

MEDICAL AND SURGICAL APPLIANCES.

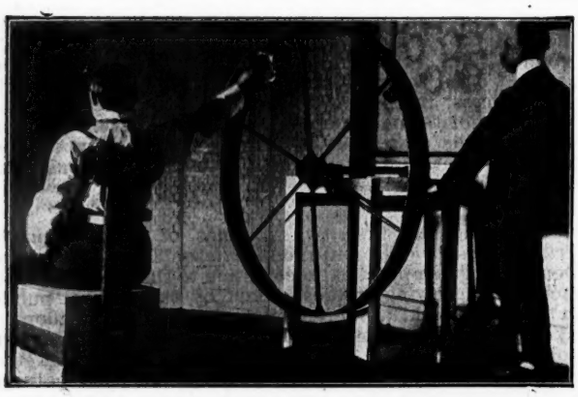
Shoulder Exerciser.

We have received the following description of the apparatus illustrated in the accompanying photograph for stretching the ligaments of the shoulder-joints.

It consists of:

1. A wheel fixed on a suitable stand; it is 4 ft. in diameter, and can be made to revolve in a vertical plane. The movements may be produced by hand, pedal, or otherwise. To one spoke a sliding clutch is attached, with which is connected a stirrup-shaped handpiece.

2. A chair, consisting of a seat capable of being moved up and down by a vertical screw support placed centrally. The back of the chair consists of a T-shaped structure, the vertical limb of which fits into brackets attached to the seat, and can be raised or lowered to suit the length of the back of the person using the apparatus. A belt is fixed to the stem for encircling the waist of the sitter. To each end of the crosspiece a belt is fixed for encircling the



shoulders. The sitter, when securely strapped to the chair, has the movements of his spinal column limited to a minimum, and the shoulder-blades are practically immobile when the shoulder-straps are securely fastened. The sitter, with his mesial plane parallel to that of the wheel, and a little further than an arm's length from it, grasps the stirrup-shaped handle, which is at first attached near the centre of the wheel. On bringing the wheel into motion, by the operator's hand or the pedal, the hand of the sitter is circumducted through a small circle at first. The circle of circumduction is gradually increased by shifting the clutch towards the rim. About sixty revolutions a minute is a desirable speed. The seat rotates on a platform, so that, without unfastening the sitter, his other arm can be subjected to similar exercise.

The Bournemouth Hydropathic Company is the owner of the patent rights attaching to the apparatus, and will on application supply it at little over net cost to any purely charitable institution.

THE PATHOLOGY OF INSANITY.

To whatever criticisms the London County Council may lay itself open on other sides, there is at least one on which its policy is unassailable. There are no diseases which more directly affect the welfare of the community, and which at the same time can be more successfully dealt with by enlightened administrative methods combined with proper medical treatment, than those which come under the head of insanity. It is therefore not too much to say that there are none as to which accurate knowledge in regard to causation and possible means of prevention is more urgently required. It is to the credit of the Council that when it took over the charge of the lunatics within the area of its jurisdiction it clearly recognized this necessity, and took steps to meet it by establishing a well-equipped laboratory for the study of the pathology of insanity. But the best-laid schemes may come to naught for the want of the right man to carry them into execution. The Council was therefore happy in finding ready to its hand for the purpose Professor F. W. Mott, who by the breadth of his scientific training, by his special knowledge of neurology and by his experience as a general physician, was peculiarly well fitted for the post. How fully he has justified the hopes of those who placed him at the head of the Claybury Laboratory is shown by the large additions to knowledge—in a region not many years ago a blank space on the map of pathology—that have been the fruits of the work done there by him and under his inspiration and guidance. The *Archives of Neurology* which have appeared from time to time under his editorship are a record of well directed and persevering research which is in the highest degree creditable to himself and to his assistants and pupils, and of which the body under whose auspices it is carried out may well be proud. The publication of the *Archives* is an event to which students of neurology and of mental disease throughout the world now look forward with well-grounded confidence that it will bring them pregnant suggestions and fresh facts throwing light on the problems in which they are interested.

The fourth volume, which has just appeared,[1] does not belie the promise of its predecessors; we can give it no higher praise. It may be noted that the title has been altered to *Archives of Neurology and Psychiatry*, a change indicating an enlargement of the scope of the publication, which seems to be warranted by the increasing readiness of medical officers of asylums to contribute scientific papers bearing upon the causation, treatment, and pathology of insanity. The hope is expressed that in this way the *Archives* may henceforth be a yearly periodical instead of appearing at irregular intervals. There can be no doubt that this would greatly contribute to the advance and spread of knowledge in regard to the subject to which it is devoted, and in the interest of humanity as well as science it is desirable that the hope will be fulfilled.

In the preface to the volume under review Dr. Mott refers to the hope expressed by him in the previous volume that the London County Council would see its way to establish in London a hospital for the investigation and treatment of mental disease still in the curable stage. The munificent offer made by Dr. Henry Maudsley, to which reference has more than once been made in the Journal, has brought the foundation of such a hospital within the sphere of practical politics; and how fully the zeal of humanity which prompted the offer is according to knowledge is shown by an article from the pen of that distinguished physician which forms an appropriate introduction to the present volume. With that article

[1] *Archives of Neurology and Psychiatry* (with introductory paper by Dr. Henry Maudsley). From the Pathological Laboratory of the London County Asylums, Claybury, Essex. Edited by Frederick Walker Mott, M.D., F.R.C.P., F.R.S., Director of the Laboratory and Pathologist to the London County Asylums; Physician to Charing Cross Hospital; Fullerian Professor, Royal Institution; Corresponding Member of the Société de Psychiatrie de Paris; Foreign Associate of the Société Clinique de Médecine Mentale. Vol. iv, 1909. Printed for the London County Council, and may be purchased either directly or through any bookseller from P. S. King and Son, 2 and 4, Great Smith Street, Victoria Street, Westminster, S.W., agents for the sale of the publications of the London County Council.

and the proposal which forms its subject we deal elsewhere (p. 1020). Here it need only be said that we note with pleasure the fact that the Asylums Committee of the London County Council is favourably disposed to a scheme which is an essential part of Dr. Maudsley's proposal, and which has been repeatedly urged in the JOURNAL—that is, the removal of the pathological laboratory from its present home in the wilderness to London. It is unquestionable that the usefulness of the laboratory as a place of research, and still more as a centre of teaching, is greatly lessened by its comparatively inaccessible situation. The Pathological Subcommittee of the London County Council some time ago recommended that the laboratory should be removed to London, but, doubtless owing to economic reasons, the recommendation has so far remained the expression of a "pious opinion." While fully recognizing the difficulties that lie in the way, we think that the ultimate advantages of the proposed transfer would be so great as to outweigh any consideration of immediate cost.

A matter of great importance touched on by Dr. Mott in his preface is a proposal made by him some time ago that a special diploma in mental disease should be given by universities and licensing bodies to persons who have gone through an adequate course of training. This would tend to raise the standard of professional efficiency in lunacy practice, as the diploma in public health has raised it in the province of sanitary science. The suggestion, which was at first somewhat coldly received by those to whom the profession looks for guidance, has now, we believe, found favour in their eyes, and some steps have been taken to carry it into effect. We think the idea is thoroughly sound, and that its fulfilment would tend to the advancement of knowledge and thereby to the benefit of the nation.

Passing to the other contents of the volume, we find first the full text with illustrations of the Morison Lectures on the pathology of syphilis of the nervous system in the light of modern research, delivered by Professor Mott at the Royal College of Physicians of Edinburgh in January last, and published in this JOURNAL February 20th, p. 454, and February 27th, p. 524. In those lectures he brings the evidence of the Wassermann method of diagnosis to strengthen the thesis "No syphilis, no tabes," which he has already so powerfully advocated on the basis of statistics and observations relating to the etiology of the disease. The hypothesis that it is a bacterial toxaemia caused by a diphtheroid organism finds no support in the results of an elaborate bacteriological investigation of general paralysis made by Dr. J. P. Candler, Assistant Pathologist to the London County Asylums. Full details are given of the methods of investigation employed. We need only indicate his conclusions:

1. That diphtheroid organisms, some pathogenic and others non-virulent to man and animals, are extremely common organisms in Nature.
2. That they can be found with considerable frequency and representing several different species in all parts of the human body, but especially on serous and mucous surfaces.
3. That the genito-urinary tract affords a very frequent nidus for some varieties.
4. That diphtheroid organisms may be found either in pure culture or associated with other micro-organisms in diseases which have been proved beyond doubt to be due to another specific factor.
5. His own observations led him to believe that diphtheroid organisms cannot be isolated from cases of general paralysis with any greater ease of frequency than from cases unassociated with that disease.
6. That during the progress of general paralysis the impairment of tissue resistance facilitates the occasional entry of micro-organisms into the blood stream.
7. That the organisms which gain entry are not confined to any particular species, but may include several varieties, among which, according to the observations of others, the diphtheroid class must be included.

After discussing the grounds on which Drs. Ford Robertson and McRae base their contention that an organism of the diphtheroid species, termed by them *Bacillus paralyticans*, is the specific etiological factor in the genesis of general paralysis and tabes, Dr. Candler points out that neither his own researches nor those of Professor A. Marie, who has independently investigated the subject, support this view. That general paralytics, he adds, are liable to secondary infections and complications is not disputed; moreover, he admits the possibility that diphtheroid bacilli may play some part in these secondary infections and that the use of an antiserum prepared from such bacilli may be followed by transitory beneficial effects. His opinion, however, is that the assumption that a particular group or groups of diphtheroid organisms act as the specific factor in the production of general paralysis is unwarranted and has not yet been substantiated by any published research.

Dr. Mott contributes interesting reports of a case of gummatous meningitis in a congenital syphilitic; of a case of localized syphilitic pachymeningitis cerebri, with speech affection; of the results of the examination of the nervous system in a case of chronic lead encephalitis; and of a case of embolism of the anterior division of the left middle cerebral artery. A paper of especial value is one on tuberculosis in the London County Asylums in which he has collected an immense body of carefully-sifted facts. The conclusions are so important that we give his summary of them:

1. The evidence adduced does not support the contention that infection is one of the *strongest* causative elements in the prevalence of tuberculosis in the London County Asylums; still less does it support the view that the causes of tuberculosis *inhere* in the asylums themselves and not in the character of the patients sent to them.
2. Notification during five years from all the London County Asylums does not show any ward incidence comparable with that shown by the notification of dysentery during the same period; therefore, if tuberculosis is communicable, it cannot be regarded as an infectious disease in the same sense as dysentery, small-pox, scarlet fever, etc.
3. The average proportion of living patients reported as tuberculous is 20 per 1,000 inmates of the London County Asylums, but the incidence of reported cases shows very considerable variations, the lowest being Cane Hill, 10.6, and the highest, Claybury, 40.3. The personal equation must largely contribute to these wide differences.
4. Association with mental disease of the cases reported during life indicates that young subjects suffering from melancholia, dementia praecox, and imbecility are especially prone to the disease.
5. *Post-mortem* statistics confirm this correlation, but, in addition, show that a large number of general paralytics die with recent active tuberculosis which is not diagnosed during life; this is especially the case in regard to female general paralytics.*
6. In 14.8 per cent. of the autopsies made at the London County Asylums during the past five years active phthisis was found. Again, a great variation in the returns from the various asylums was noticeable, for which the personal equation must be held largely responsible.
7. It cannot be shown that the variation in the incidence of tuberculosis in the various London County Asylums depends in any measure upon the class of patient received, the parish areas from which they are drawn, the construction and age of the asylum, or the dietary or treatment. Cane Hill Asylum, situated on a high chalk down, has a comparatively lower death-rate and a lower tuberculosis death-rate than any of the other London County Asylums. The relatively higher death-rate from tuberculosis at Claybury may be explained to some extent by the fact that the necropsies are made by a skilled pathologist, but it might be attributed to the clay soil and cold, damp climatic conditions, although the total death-rate is lower than at most of the other asylums.
8. A comparison of the phthisis death-rate for 1907 at the several age-periods per sane living in London and per 1,000 of the total living insane population (18,872) resident in the London County Asylums show that the mortality from phthisis among the insane is highest at a much earlier age-period than among the sane. At the age-period 45 to 55, when it reaches its maximum among the sane, it is a question whether the incidence among the insane is much greater than among the sane pauper population.
9. The comparison also shows that the death-rate from phthisis for the insane between the ages of 15 to 35 is about fifteen times that for the sane for the same age-period. Allowance, however, must be made for the fact that the majority of the inmates of the asylums belong to the poorest classes.
10. The Jewish population at Colney Hatch (mainly aliens) show a higher death-rate (25.7 per cent. of total deaths) from tuberculosis than the Christians.†

* The following is the explanation of this fact given by Dr. Mott (p. 96): "It is generally acknowledged that syphilis is the cause of this disease, and the history of sterility, miscarriages, and stillbirths which is so frequently found in female general paralytics, together with other reasons, supports the contention that the reason that the female paralytics show a much higher incidence of active pulmonary tuberculosis than the males does not rest upon the fact that they are more likely to acquire the *seeds* of tuberculosis in the asylum, but that the social conditions under which a good number of them lived prior to admission, of exposure to cold and wet, of insufficient nourishment, *poverty*, overcrowding, and alcoholism, combined with an inborn mental and physical deficiency in a considerable percentage, produced a more suitable soil for the development of tuberculosis."

† This, Dr. Mott thinks, is because the Jewish patients are largely composed of aliens who have not been long in this country; they come from Russia, for the most part, where they and their progenitors have lived in great pauperism and degradation, and, therefore, unlike the prosperous Jews, whose progenitors settled in this country several generations back, have already the seeds and soil of consumption in their bodies when they arrive in this country.

11. Evidence is not forthcoming to prove that the staff in the London County Asylums contract tuberculosis from the patients.

12. During the past ten years 1,982 necropsies were made at Claybury Asylum by skilled pathologists, and active phthisis was found in 416 cases (20.9 per cent.) Tuberculous ulceration of the intestines was found in 73 males (36.3 per cent.) and 115 females (53.4 per cent.) of the cases dying with active tuberculosis. Twenty-five per cent. of the deaths with active phthisis occurred within one year of admission, and practically 70 per cent. within five years of admission.

13. The *post-mortem* statistics for the past six years show that 51.6 per cent. of all the patients dying exhibited either obsolescent or active tuberculosis or both. It was inferred from the *post-mortem* examination that not more than 10 per cent. of the cases with active phthisis at autopsy could have acquired the disease in the asylum.

14. Infection with the disease depends upon dosage and resistance.

15. The prophylactic measures for the prevention of tuberculosis are good in the London County Asylums as regards milk, food, personal cleanliness, ventilation, clothing, warmth, and exercise in the open air, and the liability to infection from preventable causes is less than in the houses from which the majority of the insane are taken. The only further prophylactic measures consistent with proper and due economy appear to be (1) the *earlier* and *more frequent* diagnosis of active phthisis with a view to isolation and treatment; (2) the adoption of the verandah system of open-air treatment at all the asylums; and (3) the encouragement of patients suffering with phthisis to expectorate into proper receptacles, and thus possibly diminish the amount of intestinal tuberculous ulceration caused by autoinfection.

Among the papers published in the *Archives* are two by distinguished foreign investigators: one by Dr. Ariëns Kappers, Director of the Neurological Institute, Amsterdam; the other by Dr. Giacomo Pighini, of Reggio Emilia. In neither case was the work done at Claybury, but the papers are included because they were offered as being connected with work that had appeared in previous issues. Dr. Kappers's researches on the evolution of the smell area, embodied in a paper entitled The Phylogenesis of the Palaeo-Cortex and Archi-Cortex compared with the Evolution of the Visual Neo-Cortex, correspond with those of Dr. Mott on the evolution of the visual area in mammals, published in the third volume of the *Archives*. The following is a summary of his conclusions:

The granular layer in the cortex is primary in character, and has originally receptory functions.

The infragranular layer, as already pointed out by Watson, has projection and intraregional associative functions. It increases phylogenetically after the formation of the granular layer and before the formation of the supragranular pyramids (Mott).

The supragranular pyramids—already proved by Dr. Mott to be the latest to appear—have chiefly associative functions of a higher order, and therefore are just as much dependent on the surrounding regions as on the region where they are found.

The first tactile neo-cortical centre (occurring in reptiles) belongs to the trigeminal sensibility. This is explained by the associative functions between olfactorium and oral sensibility.

The neo-cortex originates from the palaeo-cortex, and not from the archi-cortex. This explains why the corpus callosum (commissure of the neo-cortex) in the lower mammals originally runs ventrally together with the anterior commissure (commissure of the palaeo-cortex), and not dorsally with the psalterium (commissure of the archi-cortex).

Dr. Waldemar Koch and Mr. Sydney Mann contribute a chemical study of the brain in healthy and diseased conditions, with special reference to dementia praecox. According to the authors, analysis of the brain at different ages shows that with its growth there is a decrease in the amount of moisture, proteins, extractives, and ash, while the cerebrins, lipoids, and cholesterin increase. Comparison of brains from cases in which the causes of death were of an entirely different character showed no variations of importance. Analysis of the brain in nine cases of dementia praecox showed a diminution of the neutral sulphur. This variation appears to be independent of the cause of death, and so far has not been found in other forms of insanity. The authors therefore think it not unreasonable to suppose that the subjects of this disease may possess a general bodily inherent deficiency for oxidation processes. Five brains from cases of general paralysis were examined as controls; they did not show any marked changes in the neutral sulphur content of the brain. Compared with the normal, the results show that the destructive changes in this disease affect the brain generally, not one constituent in particular. Some support to the view that in dementia praecox there is a general inherent bodily deficiency for oxidation processes is afforded by Dr. Pighini's observations on the increase of neutral sulphur in the urine in this disease. That investigator selected four typical cases of dementia praecox in the acute, and eight in the more advanced stage, and studied the metabolism of the various food elements by means of numerous analyses of the food administered and the excretions. He found that in the acute phase there is a negative balance of nitrogen (urea, uric acid, xanthin bases) and of phosphorus and sulphur, indicating a marked dissolution of the phosphorized and sulphurized proteids of the organism. In the advanced phase there is a proportionate retention of nitrogen and phosphorus, a loss of sulphur proportionate to these elements, and an independent loss of calcium. In both phases there is an altered water metabolism, and a relaxed excretion of chlorine.

Dementia praecox also forms the subject of a paper by Mr. G. H. Harper Smith and Mr. Rae Gibson, who give the results of a bacteriological examination of the cerebro-spinal fluid in the disease. They were led to the conclusion that the reported discovery of any organism in the cerebro-spinal fluid in dementia praecox should be regarded with great caution, and, in the light of the difficulties they have encountered, they suggest that any such organisms may be the result of external contamination.

We have no space to do more than mention the other papers contained in the volume. Dr. Candler reports a case of haemorrhage into the suprarenal capsule. The importance of this occurrence, he says, lies in the fact that such a lesion may occur giving rise to obscure abdominal or nervous manifestations difficult of diagnosis, and may even be a cause of death without any appreciable symptoms whatever. Dr. Helen G. Stewart gives notes and observations on forty cases of new growths, including eighteen intracranial tumours. She also contributes a description of the brain of an epileptic imbecile showing extensive heteropia of the grey matter, and a preliminary note on brain-weights and measurements in the insane. Dr. H. Devine reports and comments on an interesting case with impulsive obsessions of suicide and automutilation. Dr. Geoffrey Clarke gives a short account of the incidence at Long Grove Asylum from its opening on June 18th, 1907, to October 31st, 1908. The volume ends with the statistics relating to the percentage incidence of intracerebral and subdural haemorrhage and deposit in the insane by Dr. Mott.

Much of the work recorded in this volume of the *Archives of Neurology and Psychiatry* is necessarily of a highly technical character. But even those who have no time to study these abstruse investigations should be grateful to the patient workers who are labouring in dark mines which may at any time yield priceless gems of knowledge. It is only by such work that the hidden treasures of new truth can be gained.

The volume is abundantly and beautifully illustrated, and all concerned in its production are to be heartily congratulated on the result of their labours. To the London County Council special honour is due for the liberality with which it promotes the cultivation of a field of scientific knowledge which, but for such encouragement, could scarcely be reclaimed and put to profitable use.

THE International Congress of Psychology will hold its sixth meeting in Geneva this year from August 3rd to the 7th, under the Presidency of Professor Th. Flournoy. The programme includes discussion of general and special topics, questions of standardization, demonstration of apparatus, and individual papers. The general topics to be discussed are feelings—"*sentiments*" (by Külpe and Sollier), subconsciousness (Dessoir, Janet, Prince), measure of attention (Patrizi, Ziehen), religious psychology (Höffding, Leuba). The special topics are the psycho-pedagogical classification of backward pupils (Decroly, Ferrari, Heller, Witmer), pedagogical psychology (Ioteyko), orientation at a distance (Thauziès), perception of position and movement of the body and limbs (Bourdon). Under standardization will be included terminology, standard colours, enumeration of errors in testimony experiments, notation of age of children, mathematical determination of numerical results of experiments. Communications relative to the Congress should be addressed to the General Secretary, Professor Ed. Claparède, 11, Avenue de Champel, Geneva.

LITERARY NOTES.

THE publishing business established at Edinburgh over forty years ago by Messrs. Edward and Stuart Livingstone has been bequeathed to Dr. Alexander Walker. Dr. Walker, who has retired from practice, is carrying it on with his son under the management of Mr. H. M. M'Kechnie, who was for some years assistant with Mr. Young J. Pentland. It is the intention of the firm to maintain the reputation it has gained for the production of high-class medical literature.

In a supplement to its March issue, the *Indian Medical Gazette* gives a report of the proceedings of the Medical Congress held at Bombay last February. It is well arranged, and summarizes without superfluous detail a large amount of good work.

The *Eugenics Review*, of which we have received the first number, is to be the organ of the Eugenics Education Society. In a "foreword" Mr. Francis Galton emphatically disclaims "rivalry in any form with the more technical publications issued from time to time from the Eugenics Laboratory of the University of London now located at University College." On the contrary, the purpose of the *Eugenics Review* is to supplement them. Elsewhere we are told that the new review is not like unto other reviews. "It has a definite plan and purpose, the noblest that can be imagined—the betterment of the Human Race." Among the contributors to the number before us are Mr. M. Crackanthorpe, K.C., the Rev. Dr. W. R. Inge, and Sir Edward Brabrook, C.B.

Another new periodical on our table is the *British Health Review*. The editor, Mrs. L. Hodgkinson, in an opening article, discusses the medical profession and the public. The writer foresees a great change in their relation to each other. It is comforting to be assured that the doctor's position must enormously gain in importance, "for, instead of relegating the medical profession to the ambulance service of humanity, we shall regard its members as the guardians of health, and generals in the battle with all the preventable diseases that decimate our ranks to-day. They shall teach us to out-general these evils, to use the weapons of precision with which they will arm us, to rally to our aid every friendly force, every natural advantage, until in this warfare also we may beat our swords into ploughshares, and 'the trumpet shall sound Release.'" One object of the *British Health Review* is, we gather, to dissipate the ignorance of the public in regard to the machinery of life and the processes by which health is maintained. Another is to create a better understanding between the medical profession and the public, "making it clear to the former that none of our old gratitude for their sympathy and humanity has deserted us in the new call we make upon their more intellectual qualities, and to the latter that the greater half of the responsibility for disease and degradation rests upon their own shoulders, and can in no wise be shifted or ignored." The editor has for this reason invited many well-known doctors and surgeons to put before the readers of the *British Health Review*, in a language understanded of the people, what it is essential for them to know. The intention is excellent, but the trail of the diet faddist is over the periodical; and though it would, perhaps, be too much to say, from an inspection of one number, that it is written by cranks for cranks, we cannot honestly say we think it likely to fulfil its useful but somewhat difficult mission.

In a paper reprinted from the New York *Medical Record*, Dr. Herbert S. Birkett, of Montreal, gives a brief account of the history of medicine in Quebec from 1535 to 1838. Canada celebrated the three hundredth anniversary of the foundation of Quebec on July 3rd, 1908, but the history of medicine in that province began seventy-three years before, when Jacques Cartier built a rude fort on the banks of the St. Charles facing the Indian village of Stadaconé. Leaving his men to construct an abode against the coming winter, he sailed up the river St. Lawrence as far as the village of Hochelaga, the site of which includes a part of the grounds of McGill University. On his return he found his crew suffering from scurvy. Among them was a man who evidently had some knowledge of medicine, for he made a *post-mortem* examination on the body of a young man named Rougemont, in order to ascertain the cause of death, and, if possible, save the remants of the ship's company. The following is the record of the first autopsy performed in Canada:

> He was found to have his heart white, but rotten, and more than a quart of water about it; his liver was indifferent faire, but his lungs blacke and mortified, his blood altogether shrunke about the heart so that when he was opened, great quantitie of rotten blood issued out from about his heart; his milt towards the backe was somewhat perished, rough as if it had been rubbed against a stone. Moreover, because one of his thighs was very blacke without, it was opened, but within, it was whole and sound: that done as well as we could, he was buried.

The captain, having witnessed an apparently marvellous recovery from scurvy in an Indian, found that the specific used was the bark and sap of a tree called in the native tongue "Ameda." This tree is known to-day as "l'épinette," or the spruce. The method of preparation was as follows:

> To take the bark and leaves of the sayd tree, and boile them together, then to drink of the sayd decoction every other day, and to put the dregs of it upon his legges that is sicke; moreover they told us that the vertue of that tree was to heale any other disease.

The sailors were much troubled with the "French Pockes," but after liberal doses of the bark they were "cleane healed." This fortunate result led to such a demand for the remedy, that men were ready to kill each other in their eagerness to test its efficiency—

> so that a tree as big as any oake in France was spoiled and lipped bare, and occupied all in five or six daies, and it wrought so wel, that if all the phisicians of Montpelier and Lovaine had bene there with all the drugs of Alexandria they would not have done so much in one yere as that tree did in sixe daies, for it did so prevaile that as many as used of it, by the grace of God, recovered their health.

When Champlain arrived in Canada in 1608 there was in his company a surgeon named Bonnerme, who however soon died of scurvy or dysentery. Among the earliest settlers in Quebec was Adrien Duchesne, a surgeon of Dieppe, who probably arrived in 1618. When Champlain surrendered the fort to Sir David Kirke in 1629, Duchesne remained and practised his profession under the English flag. His practice extended from Quebec to the post at Three Rivers midway between Quebec and Montreal. Another contemporary of Champlain was Robert Giffard, who went to Quebec in 1628 as surgeon to the company of "The Hundred Associates." He took a considerable part in inducing families to settle in the colony, and was a member of the Council, a body empowered to enact local laws and to adjust differences between private persons. He practised in Quebec and the surrounding country, and was visiting physician to the Hôtel-Dieu founded in 1639. In 1658 Jean Madry, a surgeon of Quebec, while on a visit to France obtained from Barnois, first surgeon in ordinary to the King and head of the College of St. Côme, "Letters of Surgeon" for himself, "with power to establish in all parts of Canada the authority of surgery in order that the sick might receive more efficient medical care." These letters were registered in the Sovereign Council at Quebec, but they do not seem to have been much service to the profession. Madry was elected the first Mayor of Quebec, but the office was abolished after five weeks. About this time the need of a larger number of doctors was felt by the growing community and Jean Martinet undertook to teach his brother-in-law, Paul Prudhomme, by the system of apprenticeship. A physician of note of this period was Gaulthier, who discovered the wintergreen plant which bears his name (*Gaulthiera procumbens*). Another important doctor of the time was Michel Sarrazin, head of the medical staff of the Hôtel-Dieu. He was delegated by the French Académie des Sciences to make a special study of animals and plants in Canada. He made anatomical researches on the beaver, the muskrat, the seal, and the groundhog, and discovered the pitcher plant known to-day as the *Sarracenia purpurea*. Even in the eighteenth and early part of the nineteenth century there was no means of learning the art of healing in the Province of Quebec except by apprenticeship. The first student who went abroad to study medicine was François Blanchet, born in 1776. He was an active politician and a journalist as well as a physician. As was natural in a country

where there was no provision for medical education and where the demand for medical assistance far exceeded the supply quackery was rampant. To remedy this state of affairs the Intendant Bigot in 1750 introduced an ordinance which may be considered the code of the medical profession in Canada. This provided that no one should practise medicine without passing an examination. Those wishing to practise in a city were to be examined before the Physician of the King in the presence of the Lieutenant-Governor of the Jurisdiction. Those wishing to practise in the outlying districts were to pass an examination before the Physician of the King and a subdelegate. This ruling continued until 1788, when the British Parliament passed an Act which provided that no one should practise physic and surgery within the Province of Quebec, or midwifery in the towns of Quebec and Montreal, without a licence. A licence was to be obtained by passing an examination conducted by capable persons appointed by the Governor or Commander-in-Chief of the Province. This ordinance had a radical fault. It placed the study and the practice of medicine absolutely in the hands of the executive power, and this opened the door to partiality, injustice, and administrative tyranny. The Ordinance of 1788 was repealed in 1831, and by an Act passed in 1847 the medical profession in Lower Canada was incorporated under the name of "The College of Physicians and Surgeons of Lower Canada," and was empowered under certain restrictions to frame its own statutes for the regulation of the study of medicine in all its departments, and by-laws for its own government. In 1849 an amendment to this Act was passed, which authorized the Provincial Medical Board to issue licences.

THE ANAESTHETICS BILL.

MR. NORMAN G. BENNETT, Honorary Secretary of the British Dental Association, has issued a letter calling the attention of the members of that body to the fact that a measure entitled the "Anaesthetics Bill, 1909," was presented to the House of Commons on March 25th. The object of the bill, he says, presumably is to protect the public as far as possible against deaths arising from the administration of anaesthetics by unqualified persons. The bill proposes to do this by the following provisions:

1. Prohibiting the administration of any general anaesthetic by other than a legally qualified *medical* practitioner. Dentists registered "*before the commencement of this Act*" are exempt so far as the administration of anaesthetics "during a dental operation or procedure" is concerned.
2. On and after January 1st, 1911, no person may be registered under the Medical Acts "unless he shall have produced evidence that he has received theoretical and practical instruction in the administration of anaesthetics."

Mr. Bennett states that the executive of the British Dental Association is of opinion that it is unjust and unwise to deprive dentists who may be registered *after* "the commencement of the Act" of the right to administer anaesthetics for *dental* operations; and that the omission of local anaesthetics from the prohibition enjoined is calculated to defeat the object of the bill. This opinion is based on the following considerations:

1. There is no evidence to show that the employment of anaesthetics by *dentists* for *dental* operations has been a danger to the public.
2. Registration in the *Dentists Register* gives the right to practise dentistry or dental surgery in all its branches. The administration of anaesthetics, as an integral part of the practice of dentistry, and of the privileges acquired by registration, has never before been challenged.
3. The curriculum of the dental student is of such a nature that the average dentist has more experience and skill in the use of anaesthetics for *dental* operations and the avoidance of dangers than the average medical practitioner.
4. In country districts the deprivation of the right of dentists to administer anaesthetics would be a great hindrance to practice, and react with great hardship on the poorer class of patients who cannot afford to travel to the larger towns, where the dentist and the doctor may be found in close proximity.
5. Whilst the bill would entail no hardship upon the very rich or the very poor, who, in the one case can well afford to pay fees to both operator and anaesthetist, and in the other can continue to attend at the hospital, it would press very hardly upon the lower middle class, who would be unable to pay the double fee.
6. The proposed measure, prohibiting the use of general anaesthetics by unregistered persons for dental operations, would of itself defeat its own object, because it would inevitably lead to the exclusive use of local anaesthetics. Most preparations for the production of local anaesthesia contain cocaine, and the use of this drug is attended by considerable risk, because of its variable effect on different persons. If the object of the bill is to be attained, it is essential that local anaesthetics should be included with general anaesthetics in the prohibition enjoined by the bill.

Mr. Bennett invites members of the Dental Association to place these considerations, by way of a private letter, before their Parliamentary representative, and to ask his support for the amendment of the bill in the two essential particulars, namely:

(*a*) That *all* dentists, registered *before and after* the commencement of the Act, should be exempt from the prohibition so far as the administration of anaesthetics for dental operations is concerned.
(*b*) That local anaesthetics should be included with general anaesthetics in the prohibition.

The bill, it is said, will be brought forward for second reading towards the end of this month.

THE PLAGUE.

PREVALENCE OF THE DISEASE.

INDIA.

DURING the weeks ended January 23rd, 30th, February 6th, 13th, 20th, 27th, and March 6th, 13th, and 20th, the deaths from plague in India numbered 2,306, 2,897, 3,076, 3,162, 3,087, 3,750, 4,100, 4,593, and 4,530, giving a total of 31,451 between January 16th and March 20th, 1909. In the Bombay Presidency during the nine weeks in question, the deaths from plague numbered 6,599 (580 first week, 1,061 last week); in Bengal the numbers were 4,732 (first week 205, last week 2,277); in Madras Presidency the deaths have been insignificant in number; United Provinces, 4,921 (first week 334, last week 1,047); Punjab, 6,541 (first week 334, last week 1,047); Central Provinces, 3,151 (first week 334, last week 290); Rajputana 2,322 (first week 323, last week 314); Burmah 3,544 (first week 357, last week 233). The total number of deaths from plague in India between January 1st and March 20th, 1909, amount to 35,801, giving an average of 453 per day. It will be seen that the year 1909 is showing, as did 1908, a marked retrocession in the number of deaths from plague. In districts where plague has been especially severe, as in the Punjab, the population has been so markedly reduced in numbers that wages have increased considerably, owing to the scarcity of finding labourers. One effect of this difficulty of obtaining labourers is that machinery is being introduced into the Punjab to an extent unknown hitherto.

HONG KONG.

During the weeks ended February 28th, March 6th, 13th, 20th, 27th, and April 3rd and 10th the fresh cases of plague numbered 4, 3, 4, 1, 5, 6, and 1; the deaths from the disease during the weeks in question amounted to 3, 2, 1, 5, 4, 5, and 0 respectively.

JAPAN.

Between December 17th, 1908, and January 20th, 1909, the cases of plague reported were 32.

STRAITS SETTLEMENTS.

One case of plague reported, February 1st, 1909.

MAURITIUS.

One case of plague reported during the week ended February 18th, 1909.

EGYPT.

From January 6th to March 12th the fresh cases of plague numbered 25, and the deaths from the disease 13. The cases are reported from Deirut, Mallawi, and Baliana.

TURKEY.

In Bagdad, from January 4th to February 8th, 12 fresh cases of plague reported, 7 fatal.

GERMAN EAST AFRICA.

On January 8th, a fresh case of plague was reported.

THE AZORES.

In the island of Terceira, cases of plague still occur; during the two years, January, 1907, to January, 1909, the cases of plague numbered 232, with 112 deaths from the disease.

In the island of Fayal, between July, 1908, and January 31st, 1909, the cases of plague reported were 19, of which 6 proved fatal.

SOUTH AMERICA.

Chile.—At Taltal and Mejillones plague is reported.

Peru.—Plague occurred in several towns during 1908. In Callao and Lima, during January, 1909, several fatal cases were reported.

Brazil.—On February 1st, plague was epidemic in Bahia. In Rio de Janeiro 57 cases were reported between November 16th, 1908, and January 17th, 1909.

Ecuador.—From Milagro and Tolte, between November 17th, 1908, and January 17th, 1909, 47 cases of plague were reported.

Medical News.

THE Duke of Northumberland, President of the Royal Sanitary Institute, will preside at the annual dinner to be held on May 11th at the Langham Hotel.

THE Road Club (Carlton House, Regent Street, S.W.) has recently arranged to provide free accommodation for the motors of country members visiting London at the club's garage in Jermyn Street.

THE Royal Mail Steam Packet Company has published an illustrated booklet giving particulars of the Whitsun pleasure cruises that can be made by their steamers to Spain, Portugal, Gibraltar, Morocco, Canary Islands, and Madeira.

ON April 14th Dr. Thomas Sellar, who has practised in Aberlour (Banffshire) and district for twenty-five years, was presented by patients and friends with a motor car. Nearly every family in the district was represented in the subscription list.

THE British Balneological and Climatological Society has chosen Torquay as the place for its provincial meeting this year, the date fixed being Saturday, May 8th. Arrangements have been made to allow of members remaining over Sunday to explore the neighbourhood.

IT is announced that Dr. Tatham, who for the last sixteen years has held the office of Superintendent of Statistics of the General Register Office, will shortly retire under the age clause, and that he is to be succeeded by Dr. T. H. C. Stevenson, School Medical Officer, Somerset.

LECTURE and laboratory courses in tropical medicine, public health, and sanitation, including school and factory inspection, have been inaugurated at the New York Post-Graduate Medical School and Hospital, and will be given with the co-operation of the United States Army and United States Navy Medical Corps.

THE Spring meeting of the South-Eastern Division of the Medico-Psychological Association will be held, by the courtesy of Dr. E. S. Pasmore, at the Croydon Mental Hospital, Upper Warlingham, on Tuesday, April 27th. Dr. Pasmore also invites the members to luncheon at 1.30 p.m. Dr. T. Claye Shaw will read a paper on the clinical value of consciousness in insanity.

A SERVICE for members of the University of London will again be held on presentation day in Westminster Abbey. It will take place at 6 p.m. on Wednesday, May 12th, when the sermon will be preached by the Rev. Canon Barnett. Further particulars can be obtained from the Honorary Secretaries of the Westminster Abbey Service Committee, 88, Gower Street, W.C.

A CONFERENCE of the Friendly Societies' Medical Alliance was held at Darlington on April 12th, when it was reported that the alliance comprised thirty-one associations with a membership of 283,983, an income of £49,649, and an expenditure of £49,222. A resolution was passed to the effect that the conference would not recognize any decision accepting a wage limit for medical attendance

THE Lord Mayor of London will preside at a meeting on behalf of the National League for Physical Education and Improvement to be held at the Mansion House at 4 p.m. on Wednesday next. The Bishop of Ripon, Lord Ashbourne, and Lord Halsbury will address the meeting, calling attention to the work of the league and emphasizing the necessity for improving the physical welfare of the nation, whether for defence or commercial prosperity. Tickets of admission can be obtained from the Secretary, 11, Southampton Row, London, W.C.

A PROVINCIAL sessional meeting of the Royal Sanitary Institute will be held at the University, Birmingham, on Saturday, May 8th, when a discussion on tuberculosis and the milk supply will be opened by Mr. J. Malcolm, F.R.C.V.S., Veterinary Superintendent, Birmingham Corporation, at 11 a.m. In the afternoon a visit will be paid to the farm at Tyburn, where a herd of cattle is in the process of being freed from tuberculosis, and afterwards to the sewage purification works of the Birmingham Tame and Rae District Drainage Board.

THE Society for the Propagation of the Gospel in Foreign Parts has recently created a medical mission department, and the first public meeting in connexion with it is to be held at the Church House, Westminster, next Wednesday, at 8 p.m. The speakers include Professor Clement Cooper, of Shanghai; Dr. Hugh Weir, of Korea; Dr. Jane Walker, Dr. Champneys, and Sir Dyce Duckworth. Information respecting the new department will be gladly supplied to those interested by its Secretary, the Rev. W. P. Dott, 15, Tufton Street, S.W. For the meeting no tickets are required.

THE British Committee, of which the honorary secretaries are Mr. D'Arcy Power, 10A, Chandos Street, W., and Dr. Clive Riviere, has received a communication from the central office of the Royal Hungarian State Railway at Buda-Pesth stating that that office has been entrusted with the duty of finding accommodation for members attending the sixteenth International Congress of Medicine, to be held at Buda-Pesth from August 29th to September 4th. The accommodation is arranged in three classes, and the intending visitor must give notice and remit the price beforehand.

THE first portion of the Royal National Orthopaedic Hospital, the institution which represents the three orthopaedic hospitals previously existing, was declared open by Princess Alexander of Teck on April 20th. This is the out-patient department and nurses' home, and consists of a building of several floors. The lower part, entirely given up to the out-patient work, provides a waiting hall, six consulting rooms, an orthopaedic gymnasium, and massage and electrical annexes. The upper floors, which have been furnished by subscriptions from nurses and their friends, constitute a complete nursing home. The building has three entrances, those for nurses and for the medical staff being in Bolsover Street, and that for patients in Euston Road. Of the total anticipated expenditure some £25,000 still remains to be collected.

THE object of the Factory Girls' Country Holiday Fund is fairly well covered by the title. In its essence the fund is a kind of beneficent tourist agency for young women working in London factories; in addition to making arrangements with cottagers for the accommodation of factory girls, the fund pays a part of the expenses out of the money placed at its disposal by subscribers. This sufficed last year to enable it to send over 5,000 girls for a fortnight of fresh air and country life. The total expense was £3,925, of which £1,550 was paid by the girls themselves. The fund, which is managed on thoroughly business-like principles and well worthy of support, has for honorary secretary Miss Paget, 28, Campden Hill Square, W.

THE directors of the thermal brine springs at Oeynhausen Spa, Westphalia, issue an illustrated pamphlet giving full particulars of the chemical constituents of the springs, of the arrangements for the comfort and treatment of patients, and of the means of reaching Oeynhausen from this country, the routes being by Flushing, Hook of Holland, Ostend, or Calais. There are four springs rich in carbonic acid gas, and two simple brine springs. The bathing arrangements are good, and by mixing and heating the baths can be given at different temperatures and different strengths in salt and gas. The place is especially known as suitable for treatment of disorders of the nervous system, but its waters resemble those of Nauheim, and are used also for disorders of the heart and vascular system. There is an institute fitted with mechanical appliances suitable for use in disorders of the joints and bones. The waters have also been recommended in diseases of women, in affections of the respiratory organs, and in disorders of metabolism and digestion.

AT the Nursing and Midwifery Conference and Exhibition held last week in the Grafton Galleries, London, Dr. T. Outterson Wood, in the course of an address, said that the great want felt at the present time in the nursing world was one uniform system of training, examination, and certification, that a definite standard of proficiency might be reached which would entitle successful candidates to a qualification, not of this or that hospital—which might be a variable quantity—but of one great qualifying body. Nurses might broadly be divided into the following classes: (1) The general hospital trained, including medical and surgical; (2) the hospital nurse, who has in addition special training, such as fever, children, etc.; (3) obstetric nurses, or midwives; (4) the mental or asylum trained, including male and female. He referred to the several organizations that existed to register the above classes. There was the Royal British Nurses' Association, which was promoting legislation for the State registration of nurses. The Medico-Psychological Association of Great Britain and Ireland had already one uniform standard of training, examination, and certification. There was also the Asylum Workers' Association and Queen Victoria's Jubilee Nurses, while the midwives had their own association, known as the Midwives' Institute. Dr. Wood said that he was glad to see that in the bills before Parliament for the State registration of nurses the medical profession was well represented upon the proposed council. If State registration became an accomplished fact, the scale of fees would have to be arranged upon a reasonable basis, as otherwise many nurses would be debarred from registering, and the movement would be a failure.

British Medical Journal.

SATURDAY, APRIL 24th, 1909.

A MENTAL HOSPITAL FOR LONDON.

In the Journal of February 22nd, 1908, there was published a letter addressed by Dr. Henry Maudsley to Mr. H. P. Harris, Chairman of the London County Council, in which he offered to contribute £30,000 towards the cost of establishing in London a properly equipped hospital for mental diseases. The outline of the scheme suggested in conference with Mr. Harris was that the hospital should be for 100 patients suffering from recent and mostly acute insanity; that some 60 or 75 of these should be of the poorer class, for whom the parishes would pay, as is the case now with those sent to county asylums; and that the remainder should be private patients who would pay a sum sufficient to prevent their being a burden on the ratepayers. An integral part of the scheme was that the hospital should be an educative as well as a curative institution, and that for this purpose, as well as for the conduct of research into the pathology of insanity, it should have attached to it a laboratory such as that at Claybury, where, notwithstanding difficulties arising from its remote situation, Dr. Mott and his assistants and pupils have done so much excellent work. Dr. Maudsley's offer was, on the recommendation of the Asylums Committee, gratefully accepted by the Council, which further voted a sum of £100 for the preparation of sketch plans of such a hospital as Dr. Maudsley had in view. These facts were announced in the report of the Asylums Committee for the year ended March 31st, 1908, where it was further stated that inquiry was being made for a suitable site. In the Journal of December 19th we pointed out how fully the committee was in sympathy with the proposal to build a hospital for mental diseases, and how clearly it perceived the need of a central pathological laboratory in close touch with the hospital. So far, however, the scheme has made no visible progress towards concrete embodiment. We have reason to believe that the Council is moving in the matter, but we confess we should be glad to have fuller assurance that the hospital will not be allowed to remain, like a phantom *Dreadnought*, stranded on the rock of short-sighted economy.

In the circumstances we are fain to regard as a good augury the fact that Dr. Maudsley has contributed to the new volume of Dr. Mott's *Archives of Neurology and Psychiatry*, recently issued by the London County Council, an introductory essay in which he sets forth his views as to the aims and uses of a mental hospital. With his well-known lucidity and grace of style the distinguished writer discusses the factors concerned in the production of insanity and the different manifestations of brain disease. According to him, the varieties of insanity fall naturally into two principal classes. When the material element is damaged, either by direct injury or by toxins introduced into the body or engendered in it by some mishap in the processes of metabolism, its disordered energies are displayed in the incoherencies of delirium and acute delirious mania. In the other class of cases the disorder shows itself rather in a dissociation of the federal tracts or centres and in the steady organization of disorder. These "organized insanities" differ in symptoms, pathology, and mode of causation from the insanities of positive nervous deterioration. In them, says Dr. Maudsley, the question is not so much one of material injury to nerve element as of the steady development of a morbid character from the root of a bad constitutional inheritance. Nursed passion or prejudice ripens into bad habit of thinking and feeling, and bad habit grows into organized disorders. This leads him to the suggestion that part of the work of a mental hospital might be systematic instruction in mental hygiene in its widest sense; such instruction should be based on demonstration by actual examples of the natural and necessary effects of bad habits of thought and feeling.

Dr. Maudsley goes on to point out that as there are two different classes of insanity, so there are two different orders of inquiry to be pursued in the investigation of the disease. There is first a pathological inquiry into the physical and chemical causes of the mental derangement, and into the minute changes of structure associated therewith; for this purpose a well-equipped laboratory in the hospital is indispensable. In the next place, a more general inquiry should be made into the individual character, the hereditary influences which have wrought in its constitution, and the circumstances of life which have affected its development. Dr. Maudsley points out that it is not sufficient to consider the organism only as a physiological machine liable to derangement by subtile toxic matters; it is necessary to study the patient also as a social being. Broadly speaking, he says, insanity is such derangement of mind as prevents its victim from discharging his normal functions in the social body of which he is a member; therefore the nature of the social medium and his relations to it must always be well considered in a true exposition of its causation and character.

Passing to the consideration of the educative function of a mental hospital, Dr. Maudsley says that, alike in the interest of medical men who may be called upon to certify and are liable to an action at law for what they do, and of those who are liable to be certified and may afterwards be socially prejudiced by the fact of certification, it is most desirable that medical students should have a thorough knowledge of what constitutes a good and sufficient certificate of insanity, what certification involves, and in what cases it is justified. At present, we are told, it would hardly be an exaggeration to say that more than half the certificates signed are sent back by the superintendents of asylums for correction or amendment. Then a well-staffed mental hospital would supply clinical instruction to students such as would adequately fit them for their work when they go into practice. It would also supply a succession of trained medical men, interested in the special study and imbued with a scientific spirit, available to take office in the county asylums. A small hospital would also serve as an excellent training ground for nurses and attendants, who could afterwards go into the service of the large asylums efficiently prepared for the responsible duties they would have to discharge.

Dr. Maudsley strongly expresses the belief that a complete clinical and pathological study of insanity cannot be made without a thorough knowledge of all

the diseases treated in general hospitals and the morbid effects discovered in their pathological laboratories. A mental hospital should, therefore, be in close and constant touch with the medical work and thought of the general hospitals. On the other hand, these would in this way have the opportunity of enlarging the range of their work so as to include a study of the special mental features of the different bodily diseases. May not, Dr. Maudsley asks, every bodily disease perchance its special mental complexion? Every sound thinker must agree with him that the distribution of diseases, mental and bodily, into separate compartments, and the corresponding isolation of minds limited to the study of them, contradict the very principle of the unity of body and mind and form a most serious hindrance to the progress of medical science.

Passing to the question of treatment, Dr. Maudsley says that a small hospital filled with a constant succession of patients would evidently afford opportunities of such particular attention to individual cases as cannot well be given in a large asylum crowded with persons in all stages of mental disease for mere detention. Not only could more close and exact observations be made, but the attendance of physicians and students stimulating one another by constant intercourse, and occupied at the same time with the study of diseases in the general hospitals, would sharpen observation, suggest inquiries, keep fresh the interest, and prevent routine of thought, feeling, and treatment. The insane patient also could hardly fail to benefit by the surrounding atmosphere of sanity. On the purely practical side, he adds, it is hardly possible to overrate the good which may be done by individual treatment applied particularly to the susceptibilities of the individual character. He goes on to point out that another probable advantage of the close observation day by day of the individual patient would be a perception by physicians and nurses of the favourable psychological moment when at the dawn of convalescence the opportune removal from the asylum to a convalescent institution or to private care might save the tottering reason of the patient who, then awakening to the painful consciousness of his sad surroundings, and realizing the seeming hopelessness of the situation, might otherwise sink into despair, abandon hope, and drift into dementia.

That there are crowds of incurable cases of insanity congregated in large asylums is, according to Dr. Maudsley, undoubtedly due in some measure to the common neglect of early treatment when the malady is most curable. The longer the disease has lasted the smaller are the chances of recovery, and the time soon comes in some cases when, if neglected, there is no remedy. Here, as everywhere, the right treatment is to stop the beginnings of mischief. He thinks it may reasonably be expected, therefore, that besides the prevention of incipient insanity by wise counsel and treatment in its out-patient department, the early treatment of acute insanity in a special hospital will obviate the present necessity and perhaps lasting expense of placing some patients in a lunatic asylum —the very name of which is perhaps a terror, the remembrance a sort of nightmare, and the social consequences a lifelong prejudice.

We have given, for the most part in the author's own words, the gist of Dr. Maudsley's illuminating essay. Coming from a man of such knowledge, judgement, and experience, it will, we hope, stimulate the London County Council to vigorous action in carrying into effect, with the least possible delay, a scheme as to the usefulness of which in the public interest there can be no possible doubt. Dr. Maudsley has not only shown those responsible for the care of lunatics in the County of London what should be done, but has offered to bear a large part of the cost. It now only remains for the Council to see that his benevolent intention is not defeated by the dread of interested or ill-informed criticism.

THE PREVENTION OF PUERPERAL FEVER.

THE last word as to the prevention of infection in the puerperium has still to be said, and, judging from the differences of opinion expressed by the professors of the obstetric art, that word will not be spoken for some time to come. In the meantime we have to face facts, and the two facts which affect the problem are, first, that puerperal fever is a preventable disease; and, secondly, that deaths from this disease still continue to take place. The introduction of antisepsis and later of asepsis has materially diminished the incidence of infection, but not to the extent which has been seen in surgery.

It is difficult to fix the blame in the proper quarter, for, on the one hand, we are assured that midwives are largely responsible for the infections, and that the practitioner is not free from fault, while, on the other, there are those who hold that the patient herself forms the source of danger through the bacteria which infest her external, and even her internal, parts, though there are others who regard the vaginal inhabitants as the chief safeguard against infection with pathogenic bacteria. We may therefore feel grateful to Professor Hofmeier for giving us the advantage of his experience of 10,000 births in the Würzburg obstetric clinic.[1] It must be recognized that certain difficulties stand in the way of obtaining the very best results in a German university clinic, since in the first place the students and pupil midwives examine the patient more frequently than can be quite good for her; and, secondly, the difficult cases which are referred to the clinic for treatment are frequently examined with but prefunctory care outside by the practising midwife or medical man before being transferred. These factors apply equally to all clinics, and it is therefore interesting to compare Hofmeier's report from the Würzburg school with Professor Krönig's clinic at Freiburg, in Baden, where methods diametrically opposed to what is taught elsewhere are adopted.

Hofmeier's patients included abnormal cases in the high proportion of 15.36 per cent. The complications met with included all the conditions which give the obstetrician the most trouble and anxiety. The morbidity, calculated on the basis that every case which shows one reading of the thermometer of over 100.4° F. must be regarded as pathological, proved to be 11.48 per cent. The percentage of patients who had one or more rises of temperature as a result of the puerperal process was 6.35, but only 2.18 per cent. became seriously ill. Among the 10,000 women 56 died, 9 of puerperal infections. Of these 9, only 4 can have been infected in the hospital; but the brief records of these 4 cases show that only in 1 could it be definitely shown that the infection arose in the clinic, while the probability of an outside infection in the remainder was great, so that under the most unfavourable interpretation, 0.04 per cent. died of infection; among the last 7,000 patients not a single life was lost from this cause. The results,

[1] *Muench. med. Woch.*, September 15th, 1908.

therefore, may justly claim to be placed among the best obtainable. Krönig teaches that the genitals, both external and internal, should neither be washed nor disinfected, and that no vaginal examinations should be carried out, but that all should be made *per rectum*, yet Hofmeier not only allows vaginal examinations, but trusts to a conscientious disinfection of the hands of the students and midwives and of the external parts of the patients.

Professor Max Henkel, of Griefswald, believes[2] implicitly in Ahlfeld's hot-water alcohol disinfection of the hands, but states that those who do not think this method trustworthy have in sterile rubber gloves a trustworthy means of preventing the introduction of bacteria from without. He states that among the bacteria of the vagina streptococci are often to be found, and is of opinion that the chief danger for the patient lies in the small scratches and tears, through which the virulent bacteria may enter. For this reason he objects to all unnecessary examinations, especially before the membranes have ruptured. He holds that in the majority of cases the presentation can be made out by external examination. Hofmeier, in replying to those bacteriologists who state that no hands can be rendered sterile, takes the different ground that the search for the last bacillus is a matter of indifference. Hands which have been well washed with soap and water and subsequently disinfected with a 1 in 1,000 solution of corrosive sublimate are sufficiently sterile for practical purposes. If these precautions are carried out, he contends that the number of digital examinations made is immaterial.

On the other hand, it cannot be admitted that an incidence of over 2 per cent. of serious febrile infections in childbirth is ideal, if these infections are to be regarded as really preventable. It is only fair, however, to the clinics and to the methods adopted in them to inquire what proportion of these febrile disturbances can be ascribed to faulty asepsis in examining. Scanzoni has given a reply to this question. He found that in a series of 157 "precipitate" births, of the 97 women who were not touched by any examining finger at all, 21.6 per cent. had a rise of temperature to between 102° and 104° F. Again, among 112 women who were delivered without any contact from without, 17 had fever which could be attributed to causes other than puerperal infection, and 11.5 per cent. a rise of temperature, up to 102.5° F., presumably from infection. Hofmeier regards these cases as proving that the parturient woman can infect herself. The doctrine of *noli me tangere* is therefore not trustworthy, and we have to consider in obstetrics the sin of leaving undone those things which we ought to have done as well as of doing those things we ought not to have done. Hofmeier teaches careful disinfection of the hands and cleansing of the external parts of the patients—things we ought to do. More difficult to determine is whether disinfection of the internal parts should be left undone. If the infection is due to the flora of the vagina, then internal disinfection should be recommended, but experience is scarcely encouraging. If the infection is due to the intrusion of external bacteria, then Hofmeier's experiment of applying a mercury perchloride compress to the external parts should have lessened the morbidity, but it did not. Practice and not theory must settle the point, and it is to the obstetricians that the profession must look for a method which will safeguard women from all forms of puerperal infection. In spite of the excellent results *quoad vitam* which have been achieved, the fact that fever still continues to attack a certain percentage of lying-in women proves that the ideal conditions have not yet been discovered, but at present it would seem that the woman herself is her own worst enemy.

[2] *Deut. med. Woch.*, Nos. 43, 44, and 45. 1908.

RESEARCH DEFENCE SOCIETY.

IT is just a year since we published a letter from the Earl of Cromer announcing the formation of a society whose function it should be "to make known the "facts as to experiments on animals in this country; "the immense importance to the welfare of mankind "of such experiments; and the great saving of human "life and health directly attributable to them." At that time the society had been in existence for some three months, and already numbered more than 800 members. Since then its membership has increased to 2,270, and branches have been formed in Birmingham, Bournemouth, Brighton, Cambridge (University Branch), Dublin, Edinburgh, Leeds, Liverpool, Manchester, Norwich, Oxford, Shrewsbury, Torquay (Devon Branch), York, and in other places. A number of lectures have been delivered under the auspices of the society, which has also published pamphlets and leaflets giving information to all who ask for it as to experiments on animals and their results.

We congratulate the energetic secretary, Mr. Stephen Paget, on the work of the society, and especially on a new enterprise by which its activity is displayed. A selection of its publications has just been issued in book form.[1] The volume, which is beautifully printed, contains, in addition to a preface, the address given by Lord Cromer at the inaugural meeting of the society held on June 19th, 1908; a summary of the report of the Inspectors on Experiments on Animals made during 1907 in Great Britain and Ireland; and some facts as to the administration of the Act taken from evidence given before the Royal Commission on Vivisection. Professor Starling deals with the use of dogs in scientific experiments, showing that for a large number of important researches that animal is indispensable, owing to its size and the marked analogy of its digestive system to that of man. Practically the whole of our knowledge of the production of lymph in the body is derived from experiments on dogs. For our knowledge of the causation of the heart sounds and their interpretation, for the investigation of the pulse, of the work of the heart, and of the relations between the blood pressures and the heart, and the blood vessels respectively, we are also indebted to experiments on the same animal. Observations on dogs furnish the key to the laws governing the movements of the intestines. Our conceptions of the process of digestion, which must guide physicians in the treatment of its disorders, have been revolutionized by experiments on dogs. Professor Starling says that although he has been engaged in the experimental pursuit of physiology for the last seventeen years, he has never seen pain inflicted on a dog in a

[1] *Publications of the Research Defence Society*, March, 1908—March, 1909. Selected by the Committee. London: Macmillan and Co., Limited, St. Martin's Street. 1909. (Pp. 216.) It may be mentioned that four pamphlets, included in the volume, were not among the loose set of pamphlets sent to every member of the society last summer. These four pamphlets will now be sent to every member. We are asked to state that the volume may be procured by members at cost price—1s. 8d., including postage—on application to the Secretary, at 70, Harley Street, W.

physiological laboratory in this country. He points out further how pain would defeat the purpose of the experimenter. As he tersely puts it, "A physiological "experiment which is painful is thereby a bad experi- "ment." The use of anaesthetics in experiments on animals is illustrated by the evidence given before the Royal Commission by witnesses of acknowledged authority on the subject. The evidence given by Lord Justice Fletcher Moulton before the same Commission, an abstract of which was published in the BRITISH MEDICAL JOURNAL of March 21st and 28th, 1908, forms a most important section of the book; coming from a man of legal training and judicial mind, it is perhaps the most striking testimony that has yet been given as to the value of vivisection. Professor Cushny shows how accurate knowledge of the action of drugs has been obtained by experiments on animals; and the value of antitoxin in the treatment of diphtheria is proved by the statistics of the Metropolitan Asylums Board Hospital and of those of New York City and Paris. Dr. A. Gardner Robb, of Belfast, gives a number of facts showing the value of antimeningitis serum (Flexner and Jobling) in the treatment of epidemic cerebro-spinal meningitis. The American figures show a reduction of mortality by more than one-half since the use of the serum. Dr. Gardner Robb's own experience has been that of 275 unselected cases under his care in the Belfast Fever Hospitals before the use of the serum, 72.3 per cent. died; while of 98 cases treated with the serum, only 29.6 per cent. died. An article by Dr. Bashford on advance in knowledge of cancer is reprinted from *Nature*. Professor Osler's evidence as to yellow fever and malaria is next given, and the book ends with an essay on the extinction of Malta fever by Sir David Bruce, in which the story of this triumph of the experimental method is told in a clear and convincing manner.

We strongly recommend this collection of facts as an antidote to the fictions sedulously propagated by the antivivisectionist societies. It should be carefully studied by all who wish to be well posted in regard to matters which, by many even of the household of medicine, are too often taken for granted or treated with indifference. Every one who stands for medical science within his own sphere, however small it may be, is liable to be called upon to give a reason for the faith that is in him; in this little book he will find the fullest justification of animal experimentation as applied to the art of healing, and an exposure of the fallacies of those who denounce that method of research. To those who take part in newspaper controversies or public debates on the subject it is indispensable. It appeals to the public perhaps even more than to the profession; the case for vivisection is put in a manner so simple and lucid that the book is especially suitable for the enlightenment of lay persons who are able to appreciate evidence, and whose mind's eyes are not blinded to plain facts by prejudice, or what theologians call "invincible ignorance." We commend it most earnestly to our readers, not only for their own edification, but as a means of helping them to dissipate error and spread the light.

THE Bristol City Council decided on April 20th to contribute, in the proportion of one penny in the pound on the rates, towards the support of the projected university for Bristol and the West of England. This rate will yield about £7,000 a year.

THE PRIEST AND THE PHYSICIAN.

AT a meeting of the Church Medical Union held on April 19th, Mr. W. R. Fisher, who was in the chair, said that the movement which the Union had started might be defined as the co-operation of the Church and the medical profession in the healing of the sick. Mr. Geoffrey Rhodes, the Secretary of the Union, speaking on "Medicine and the Church," said that the discoveries of psychology showed that mind and body reacted on one another. In considering the question of mental healing, a sound conclusion was most likely to be reached if the lines of careful theological study and close scientific research were followed. These they would get in the deliberations of their spiritual leaders and medical men. There was a danger of people being led off the track by unqualified healers. They were not to neglect natural means in the hope of a miracle being performed. They were bound to consider themselves humbly as students, but they could express firm belief in the vital principle that the doctor of medicine and the clergyman should work in all cases in the closest consultation. From the general tenor of the speeches we get the impression that the main object of the Union is to show that the Church has a ministry of healing which can beat Christian Science on its own ground. The Union is especially anxious to reassure the doctors that it intends to work in co-operation with them. not to supplant them. We have no doubt of the excellence of the intentions of the promoters of the movement, but their notions of the end they have in view and of the means by which they are to reach it seem to be vague to the degree of mistiness. The discovery that mind and body react on each other, which Mr. Geoffrey Rhodes attributes to psychology, dates from a very early period in the history of medicine. Thousands of years ago the liver was believed to be the seat of courage, the spleen of depression, the bowels of compassion, and the heart of affection. The old physicians well knew the good effect on the mind of remedies that expelled the "black bile" which produced melancholy, and of laughter which "desoppilated" the spleen. Modern faith healing has really added nothing to the knowledge of this kind possessed from immemorial antiquity. Enlightened practitioners of medicine will welcome such help as clergymen can give in ministering to a mind diseased; but it must be on the clear understanding that the care of the body belongs wholly to the doctor. We go further and say, with special reference to the "close consultation of the "minister of the gospel and the doctor of medicine" which Mr. Rhodes thinks necessary, that the doctor may be willing to advise the minister when the circumstances of the case seem to call for it, but if he is to do his duty to his patient he cannot consent to meet a clergyman or a spiritual healer in consultation. The course of the Emmanuel movement in America is enough to show that there is a danger that the close alliance with the medical profession which the Church Medical Union professes to desire may easily be used as a means of "covering" unqualified practice.

POOR LAW MEDICAL OFFICER AND A CORONER'S JURY.

AN inquest was held at West Hartlepool by the Coroner for the Stockton Ward District of the County of Durham with regard to the death of a retired master mariner, 69 years of age, who after attending a football match was taken ill in the street and died in a few minutes. It appeared from the evidence given by the police, as reported in the *Newcastle Chronicle*, that as soon as possible after their attention had been directed to this case one of their own

officials took upon himself to communicate with the district Poor Law medical officer by telephone and request his attendance on the patient, but as he declined to be responsible for any remuneration his request was not met. This led to one of the jury remarking that the doctor had evidently refused his services on the question of pay. The jury, after hearing medical evidence, returned a verdict that the death was due to apoplexy—that is to say, from a natural cause—but this non-criminal verdict was accompanied by the following rider: "We desire "to express our disapproval of the conduct of the "parish doctor in refusing to attend this urgent case "unless guaranteed a professional fee." How the coroner could have allowed such an opinion as this to be incorporated with the verdict we are quite at a loss to understand. We are not surprised at the jury, unacquainted as probably most of them were with the rudiments of the law bearing on the case, being anxious for this addition to the verdict—no doubt from a desire to be, or to appear to be, charitable, though not at their own expense. The coroner, however, must have known, or, at any rate, ought to have known, that any such censorious rider was no part of the duty of his jury, and that it ought not to have been recorded. It was the duty of the jury to return a criminal verdict if such was justified by the evidence given; but if this could properly not be done, their duty was then at an end. It is true that the coroner in his remarks attributed the incident to "the red-tape "arrangements of the Poor Law system," but we see no account of the Poor Law medical officer in question having been present at the inquest, and therefore assume that he was unjustifiably censured in his absence, without having had any opportunity to defend his own action—a proceeding not sanctioned in any other court of justice, so far as we are aware, in any part of the United Kingdom. The jury, in fact, had no right to express their disapprobation of the conduct of any individual. To do so was unquestionably *ultra vires*, and it is quite possible that mischief or hardship may result from it elsewhere.

INTESTINAL BACTERIA.

Professor Metchnikoff[1] regards it as a settled point that amongst the inhabitants of the large intestine there are three important types of putrefactive bacteria—namely, *Bacillus putrificus*, *Bacillus sporogenes*, and *Bacillus welchii*. With regard to the pathogenic powers of these three types opinions differ, the bacillus of Welch, often known as *Bacillus aërogenes capsulatus*, being apparently the one with which disease is most frequently associated. In experiments on guinea-pigs Metchnikoff found that the *Bacillus welchii* presented remarkable variations. When freshly obtained from pus or from the intestinal contents, it rarely possessed a marked degree of infectivity, and the guinea-pigs usually resist considerable doses inoculated intraperitoneally. But the bacillus readily gained in virulence; after a few passages it acquires an extremely high pathogenicity, and produced death in the guinea-pigs within one or two hours after introduction into the peritoneal cavity. A young chimpanzee, however, was made to ingest large quantities of *Bacillus welchii* without suffering the slightest ill effects. With a view to investigating the production of toxins by the three types of putrefactive intestinal anaërobes mentioned, Professor Metchnikoff cultivated them *in vacuo* in a medium consisting of finely minced meat and water. Under these conditions toxins were produced, the effects of which were tested upon rabbits, generally by intravenous inoculations and sometimes by introduction per rectum. The material introduced consisted of the filtered liquid portion of the culture medium; in some experiments the liquid was heated to 100° C., and in others it was not heated, but was passed through a Chamberland filter. The most markedly toxic effects were produced by young cultures, aged from two to five days. With older cultures the toxicity progressively diminished, probably owing to the decomposition of the toxins by the action of the bacteria themselves. This explanation is supported by the observation that the liquid which was freed from microbes by heat or filtration preserved its toxicity for a prolonged period. The intoxication manifested itself in a manner which varied according to the dose. When young or adult rabbits were injected with a dose of 7 or 8 c.cm. per kilo. of body weight, death was generally almost instantaneous; the animal fell, there were some clonic convulsions, and respiration and the cardiac movements ceased. With smaller doses the animals remained alive for three or four hours, and then died in the same condition as the former. When the less toxic liquids were employed the rabbits did not die for several days, and after small doses they remained alive for months, or even indefinitely. In the acute type of intoxication the liver, the kidneys, and the small intestine were very hyperaemic, and, like the heart, filled with non-coagulated blood. The results of the experiments emphasized very clearly the extreme variability in the toxicity of different putrefactive anaërobes. Of the three species studied the *Bacillus welchii* was found to be the most active. But the difference between its toxicity and that of the two other microbes was not very considerable. In one case the bacillus of Welch, isolated from a severe case of appendicitis, proved almost innocuous as compared with other cultures of the same microbe, derived from persons in good health, which produced rapid death in the experimental animals. Rectal injections of the toxic liquids produced most effect on small rabbits; those which received one or more doses of the bacterial products failed to develop like normal animals, and some of them died. Another point noted by Professor Metchnikoff is that the liquids obtained with faecal material inoculated in a meat medium are much more toxic than the liquids derived from a vegetable decoction inoculated with the same material. Professor Metchnikoff's observations on proteid decomposition by intestinal bacteria are of interest, but the data which he provides are not sufficient to enable us to express an opinion as to the precise significance, theoretical or practical, of his researches.

[1] *Ann. de l'Inst. Pasteur*, December, 1908.

TREATMENT OF TETANUS.

Reference has already been made to an instance reported from Ann Arbor, Michigan, of tetanus developing on the twelfth day after dilatation and curetting of the uterus, with shortening of the round ligaments after Alexander's method;[1] but some further particulars of the case and of the treatment successfully adopted will be of interest. The patient was an unmarried girl aged 19, subject to dysmenorrhoea, and Dr. Reuben Peterson operated in a private hospital with an aseptic technique. Stiffness and soreness about the jaws appeared during the twelfth day, and double parotitis with hysteria was suspected. For two or three days the stiffness was trifling, but on the fourth acute tetanus with marked opisthotonos developed. Dr. Peterson called in consultation Dr. W. H. Hutchings of Detroit, who had successfully treated 5 cases of tetanus by chloretone, 3 being

[1] *Amer. Journ. Obstet.*, April, 1909, p. 658.

bad "Fourth of July accidents" from fireworks or pistol shots. Dr. Hutchings administered to Dr. Peterson's patient an enema of 60 grains of chloretone dissolved in hot olive oil. The spasms of the jaw and back relaxed, and the patient seemed comfortable but drowsy, as though under opium. Then Dr. Peterson administered 1,500 units of the antitetanic serum, the benefits of which to patients after the development of the spasms seem to him doubtful. Early next morning the spasms recurred. An enema of 60 grains of chloretone was once more administered, the dose of antitetanic serum was repeated, and the convulsions ceased altogether. The highest temperature reached was 100.2° in the rectum, the highest pulse-rate 114. After the second dose of serum and chloretone convalescence was uninterrupted. As already stated, Dr. Peterson failed to discover the origin of the perilous complication in his case. The catgut employed for the plastic operation on the round ligaments was tested by an expert with great care and found free from germs. A minute blister had developed at the corner of one incision, which had otherwise healed well. The serum in the blister contained the staphylococcus, but the tetanus bacillus could not be isolated. Dr. Peterson notes that this is the sixth of Dr. Hutchings's cases of tetanus, serious like all the others, and that, like them, recovery followed the administration of chloretone, which is trichlor tertiary butyl alcohol, sometimes called acetone-chloroform. Others may be inclined to award some of the merit to the antitetanic serum.

THE INFLUENCE OF HEREDITY AND ENVIRONMENT ON EYESIGHT.

IN a memoir[1] recently issued, Miss Amy Barrington and Professor Karl Pearson deal with some interesting problems of inheritance in man. They find, by the use of exact statistical methods of analysis, that there is strong reason for believing that errors of refraction and keenness of vision are heritable characters, although the fact that most of the material is selected renders an exact evaluation of the statistical constants difficult. From the medical standpoint, perhaps the most interesting section of the paper is that dealing with the influence of school life on vision. In the course of a very careful examination of the evidence adduced in support of the popular belief that attendance at school is highly prejudicial to the eyesight of the rising generation, the authors point out that no such conclusion can be regarded as well established. They find that the coefficient of correlation between degree of myopia and age is 0.33 ± 0.019, between degree of myopia and years at school, 0.244 ± 0.020 (Cohn's data). In commenting on these values they state that they show "that the associations between "degree of myopia and age and degree of myopia and "years of school life, while quite sensible, are not by "any means very marked. Further, whichever "test be applied it indicates that the relation-"ship between age and degree of myopia is "closer than that between the latter and the "number of school years. In fact, a correlation of 0.8 "to 0.9 between age and number of years of school life "would make the association of degree of myopia and "years at school for a constant age practically *zero*. "Cohn provides no data by which we could determine "this correlation of age and school life for his material. "But in the London schools the children practically "rise a standard a year, and it has been found by "Mr. Heron that the relationship of standard and age "is practically of the above magnitude. Accordingly, "Cohn's statistics seem to indicate that the moderate "association they exhibit between school environment "and degree of myopia is solely a secondary result of a "primary relation between age and degree of myopia. "This increase of myopia with age may be due to the "continued action of some environmental factor or to "a growth factor. Cohn's statistics, however, do not "demonstrate, as has been assumed by many "ophthalmological writers, that school is the hot-"bed for the production of myopia." In view of the numerous imperfections of existing data, the authors are to be commended for their caution in drawing conclusions with respect to this important matter; we think that their results show that in the anthropometric school laboratories, that may some day be established, ophthalmological measurements should be collected with at least as much zeal as information regarding weight, height, and chest dimensions. Among other curious results, the authors find that normal vision is *slightly* correlated with overcrowding, bad economic conditions, and morally defective parentage. They ask: "Can it be that "these bad home conditions keep the children in the "streets, and so relatively away from the bad "environment and in relatively fresher air?" A perhaps equally plausible hypothesis is that with these unfavourable environmental conditions only the relatively fitter members of the stocks survive infancy, but we do not think the question can be solved from existing data. This memoir deals with questions of such interest, both to the medical man and publicist, that it deserves a wide circulation; and it can be studied with advantage even by those not versed in statistical methods, since technicalities of biometry are in it reduced to a minimum.

[1] *A First Study of the Inheritance of Vision and of the Relative Influence of Heredity and Environment on Sight.* By Amy Barrington and Karl Pearson, F.R.S. Eugenics Laboratory Memoirs V. London: Dulau and Co. 1909. (Pp. 61. 4s.)

THE SUCKLING OF INFANTS.

THE complaint that mothers of the present day cannot nurse their babies has during the past few years been shown to be unfounded. Medical men know on the evidence of practical experience that attempts to suckle seldom fail if made in accordance with scientific teaching and carried out with a reasonable amount of perseverance. The work of the late Professor Budin in Paris clearly shows how great is the importance of proper attention to this subject, and those who are interested in the matter cannot do better than study a very able article by Dr. Janet Lane-Claypon which appears in the January number of the *Nineteenth Century and After*. In Germany the pioneer of the movement was Dr. Oppenheimer, and the consultations at which mothers are given advice and assistance with regard to the management of their babies have been instrumental in preserving the health of large numbers of babies. Dr. Vidal, of Darmstadt, has during the past three years followed the example of Budin and Oppenheimer, and has published recently a brief account of his results.[1] It is not, he finds, sufficient to instruct the mothers during the lying-in period to suckle the babies. As soon as the doctor's back is turned, the mother, the grandmother and the neighbours give their advice; all the scientific teaching is thrown away, and the baby gets a bottle. The amateur counsellors probably do not know that in the "good old time" 30 per cent. of their infants died. Dr. Vidal states that vanity and comfort are rarely taken into account by the German woman. Usually she is over-anxious, and believes that she has not enough milk to satisfy the infant. She complains that the child cries so much. The mothers are taught at the consultations that the act of sucking causes the

[1] *Muench. med. Woch.*, January 12th.

flow of milk, and if a baby is given a bottle it will refuse after a time to suck at its mother's breast when it can get milk with less trouble. This is the chief danger of the so-called *allaitement mixte*. During the three years Dr. Vidal has only had to tell one mother that she had not enough milk. He was able to compare the infants brought to the consultations, who did well without exception, with those managed according to amateur advice, of whom no small percentage died. He gives examples of the advantages of the consultations to mothers who had lost child after child from diarrhoea before they were taken in hand. At times the first attempts to make the baby take the breast are difficult; an infant may even refuse to suck for a whole week, and the mother and the midwife are very apt to lose patience. The same answer which can be given to the assumption that the quantity of milk is insufficient may apply to the assertion that the milk is poor in quality. Neither the mother nor the midwife has any conception with regard to the normal quality of mother's milk, and the best proof that the milk is good and sufficient is to be found in the fact that the baby thrives on it. This Dr. Vidal has been enabled in each case to demonstrate to the mothers at his consultations. The results which he has obtained, therefore, tally with those obtained in Paris and elsewhere where similar consultations have been organized. The saving of life and the diminution of days, weeks, and months of sickness are so striking that we do not hesitate to say that one of the most important reforms in hygiene called for at the present time is the institution of places where mothers may bring their healthy babies for inspection and where advice and assistance in the matter of the proper management and care of the infant are provided.

WIRELESS TELEGRAPHY.

THOUGH no workers can point with greater pride to their results, it is the fate of legislative and scientific labourers in the field of occupational disease to be unable ever to claim for long a shrinkage in the extent of their sphere of action. Occupational mortality decreases steadily, no doubt, year by year, but the general mass of occupational disease exhibits something of the vitality of an amoeba. So soon as skilled investigation has diminished the risks of those engaged in one special trade and one evil is thus repressed, advances in scientific knowledge, and the occupations or manufactures which develop as a sequence, lead to the extrusion of a new pseudopodium and thus bring up the total amount of trade or occupational disease more or less to its former level. The latest claimant to consideration in this connexion is wireless telegraphy, its sponsor being a medical officer of the French navy, Dr. Bellile. During the recent troubles in Morocco wireless telegraphy was constantly being used on board his ship, and among the men under his charge he found lesions explicable only on the supposition that they were due to this new employment. For the most part, they consisted of conjunctival irritation, more or less intense in character, sometimes not easy to cure, and in one or two instances followed by corneal ulceration. One of the patients developed also a patch of eczema near the eye, another a patch of eczema on his wrist, and these skin troubles were, Dr. Bellile considers, not merely coincidental but of the same etiological significance as the conjunctivitis. In view of the intensity of the flashes emitted when wireless telegraphy is in progress, there is no difficulty in believing that conjunctivitis may be set up among the operators; fortunately, however, the remedy suggested by Dr. Bellile is equally easy—namely, the wearing of blue or other glasses calculated to protect the eyes from the effect of the ultra-violet and other rays emitted. He is, however, much less convincing when he suggests that the emission of these flashes of electricity may have a general morbid effect on every one anywhere in their vicinity, and not merely be productive of occasional lesions on the exposed parts of the bodies of actual operators. Neurasthenia and allied nerve troubles he holds to be much more frequent in the French navy than formerly, and he suggests as a cause the increasing use of electricity. Far be it from any one to dogmatize on the capabilities of electricity, but it should not be forgotten that, though wireless telegraphy entails the launching into space of an immense amount of electrical force, this is taken up by the creation of Hertzian waves. Hence the analogy which he draws between wireless telegraphy and *x*-ray work would seem to be somewhat faulty. Much simpler reasons could probably be suggested for an increase in functional nerve troubles among men living and working on modern war ships than that of the introduction of this new use of electricity.

THE LEPERS OF MOLOKAI.

MUCH has been heard in recent years of the wretched conditions of life in places where lepers doomed to separation from their fellows are herded together, and appeals to popular feeling have been founded on such statements with the object of bringing about a reversal of the policy of segregation. It is satisfactory, therefore, to learn from an unprejudiced witness the actual facts in regard to one of the best-known leper settlements. Mr. Jack London, in a recent issue of the *Contemporary Review*, has stated, as the result of a visit to the place which must always be associated with the name of the heroic Father Damien, that the horrors of Molokai as they have been painted in the past do not exist. The settlement, he says, has been written up repeatedly by sensationalists who have never set eyes on it. The fact that a leper is unclean, however, should be insisted upon; and he gives it as his opinion that, from what little is known of the disease, the segregation of lepers should be rigidly maintained. In order to dispel some of the popular misapprehensions as to leprosy, he describes scenes which serve to show the relations existing between the lepers and non-lepers at Molokai. On the morning of his arrival, Mrs. London and he attended a shooting match of the Kalaupapa Rifle Club. Among the members of the club are Dr. Goodhue and Dr. Hollmann, the resident physicians, who live in the settlement with their wives. Lepers and non-lepers were using the same guns, and all were rubbing shoulders in the confined space. The majority of the lepers were Hawaiians, but in the stand directly in front of the visitors was an American who had fought on the Confederate side in the Civil War. He was 65 years of age, but that did not prevent his running up a good score. Strapping Hawaiian policemen—lepers, khaki-clad—were also shooting, as were Portuguese, Chinese, and *kokuas*, the latter being native helpers in the settlement, who are non-lepers. On the afternoon that Mr. and Mrs. London climbed the famous *pali*—a cliff from 2,000 ft. to 4,000 ft. high, which separates the place set apart for the lepers from the rest of the island—and looked their last upon the settlement, the superintendent, the doctors, and the mixture of nationalities and of diseased and non-diseased were all engaged in an exciting baseball game. Terrible and monstrous as was the treatment of the leper in the Middle Ages, it taught the great lesson of segregation. By its means leprosy was stamped out. And by the same means, according to Mr. London, leprosy is even now decreas-

ing in the Hawaiian Islands. But he insists that the segregation of the lepers on Molokai is not the horrible thing which has been so often exploited by Yellow writers. In the first place, the leper is not torn from his family. When a suspect is discovered, he is invited by the Board of Health to come to the Kalihi Receiving Station at Honolulu. His fare and all expenses are paid for him. His case is first adjudicated upon by means of microscopical examination by the bacteriologist of the Board of Health. If the *Bacillus leprae* is found, the patient is examined by the Board of Examining Physicians, five in number. If found by them to be a leper, he is so declared, and this finding is later officially confirmed by the Board of Health, and the leper is ordered to be sent to Molokai. Furthermore, during the thorough trial that his case is given, the patient has the right to be represented by a physician whom he can select and employ for himself. Nor, after having been declared a leper, is the patient immediately rushed off to Molokai. He is given ample time—weeks, sometimes even months—during which he stays at Kalihi and arranges his business affairs. At Molokai, in turn, he may be visited by his relatives, business agents, etc., though they are not permitted to eat and sleep in his house. Visitors' houses, kept "clean," are maintained for this purpose. When at Molokai, the declared leper has the privilege of re-examination. The settlement of Molokai has a far more delightful climate than even Honolulu, being situated on the windward side of the island in the path of the fresh north-east trades. The scenery is magnificent; on one side is the blue sea, on the other the wonderful wall of the *pali*, receding here and there into beautiful mountain valleys. Everywhere are grassy pastures, over which roam the hundreds of horses owned by the lepers. While not attempting to disguise the fact that leprosy is a terrible disease, Mr. London says that he would prefer to spend the rest of his days in Molokai than in any tuberculosis santatorium.

CENSORSHIP IN RUSSIA.

THERE is at least one thing in regard to which Russia is in advance of any other country. The Government seems to be resolved that the people shall not be deluded by quackery. It is announced that advertisements of medicines are henceforth to be subjected to strict censorship in Russia. All advertisements concerning medicines, appliances (cosmetic and hygienic), the practice of medicine, dentistry, midwifery, massage, pharmacy, etc., and watering places and mineral wells, must be submitted to the Censor before they are inserted in a newspaper. Once passed by him, no modification will be allowed. It is forbidden to advertise abortifacients or preventives of conception, and to publish lying or exaggerated praises of medicines of any kind. The law also precludes the advertisement of products or preparations which can be sold only under a name that implies an indication of their use, such as "antibrightin" or "antirheumatin"; these we think it well to state are, as far as we know, purely imaginary names which we use to denote the kind of thing we suppose to be meant. The advertisements of doctors must contain no comment. In doubtful cases the question must be referred to the principal medical inspector.

THE HEIGHT OF CREDULITY.

A GERMAN professional paper lately related an example of ingenious enterprise on the part of a former student of pharmacy aided and abetted by a friend. They inserted the following advertisement in a number of journals: "At last means have been found to increase "the height of the human body. We guarantee to all "who will use our apparatus, *Werde gross*, that in "two days' time they will stand at least 4 cm. higher. "We will pay 1,000 marks to every purchaser who has "failed to obtain the promised result." The advertisement ended as follows: "Ladies and gentlemen, such "a guarantee is given only by him who can speak "with absolute certainty as to the result. The "price of the apparatus is 5 marks. Address," etc. A number of simpletons fell into the trap and sent their 5 marks, getting in exchange a pair of cork soles 4 cm. in thickness, accompanied, by way of adding insult to injury, by a bottle of hair lotion and a collyrium. We confess we do not see the special significance of the hair lotion, having no reason to believe that bald people are bigger fools than their neighbours. But there is a subtle touch in the collyrium which, it may be presumed, was intended to suggest that the eyes of the poor dupes required some attention. The advertisers may have taken a hint from Swift's lines on himself:

> He left the little wealth he had
> To build a house for fools and mad;
> Thus showed by one satiric touch
> No nation wanted it so much.

Unfortunately for our adventurers, the police with its inquisitorial ways bestowed an inconvenient attention on their enterprise. The end of the affair was that one was fined 300 marks, the other 50. If they were of a philosophic turn of mind, however, they must have felt it cheap at the price to show once more the infinite gullibility of the average man.

DR. J. LUCAS-CHAMPIONNIÈRE, President of the International Society of Surgery, will deliver the annual address to the Cardiff Medical Society on Friday, June 4th. The subject selected by the eminent French surgeon is the modern treatment of fractures.

THE Prince and Princess of Wales will open the Edgar Allen Library of the University of Sheffield on Monday next, and will attend the Congregation in the Firth Hall of the University at which the Chancellor, the Duke of Norfolk, E.M., K.G., will confer honorary degrees.

IN referring last week to the election of the late Mr. C. G. Wheelhouse to the Council of the Royal College of Surgeons of England in 1876, the belief was expressed that he had been preceded by only two provincial Fellows, Mr. George Southam of Manchester, and Mr. Alfred Baker of Birmingham. Mr. G. C. Franklin informs us, however, that Mr. Thomas Paget of Leicester was elected a member of the Council in 1862, and that he was the first provincial surgeon to receive that honour.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The House of Commons reassembled after the Easter holidays on Monday last. There was only a moderate attendance of members, and instead of the usual three score or more questions only six appeared on the paper, and of these only three were asked. Two related to the remarkable speech of Admiral Smith-Dorrien with reference to the body of the late Prime Minister, and the First Lord said in reply that the reference was not intended seriously, and he expressed regret on behalf of the gallant admiral that the reference had been made.

The London Elections Bill was then introduced by Mr. Lewis Harcourt, and after a speech in opposition from Sir F. Banbury was read a first time. The Indian Councils Bill was next taken in Committee, and occupied the rest of the sitting.

The Admission of Strangers.—It is now several months since the suffragette disturbances led to the closing of the galleries for men and women in the House of Commons. A Committee of the House was appointed to consider the course to be adopted in the future, and the bill, called the Houses of Parliament Bill, which embodied their recommendations, occupied the attention of the Commons for some hours on Tuesday afternoon. The bill proposed to make disorderly conduct an offence, for which any stranger could be arrested by an officer of the House, locked up, and on conviction before a magistrate be sentenced to six months' imprisonment or a fine not exceeding £100. In the course of the discussion, it soon became apparent that the members of all political parties disliked the police-court procedure, and felt that the House itself ought to be the guardian of its own order and comfort. There were also unmistakable signs that a large number of members were quite content to leave the galleries empty for the present. The bill was severely criticized by Sir E. Carson, and after the Attorney-General had said the Government would let members vote as they like, and not make the Bill a Government question, the Prime Minister finally settled the matter by moving the adjournment of the debate. This was carried *nem. con.*, and so for the present the bill disappeared, to the great satisfaction of the House. *Solvuntur risu tabulae.*

The Housing Bill.—Sir Walter Foster has put down amendments to Clause 67 of this bill, to give district and borough medical officers of health the same security of tenure as county officers, and to place all medical officers of health on an equality as regards the duration of their appointments.

The Anaesthetics Bill, or, as it is officially called, the Medical Acts Amendment Bill, is exciting a good deal of criticism in many quarters. The registered dentists as well as the unregistered dentists are very active against it. Registered dentists and students of the dental schools ask that properly qualified registered dentists should be allowed to give anaesthetics, and that the use of local anaesthetics should be included in the scope of the bill. The bill has been blocked by no fewer than seven members.

The Local Education Authorities (Medical Treatment) Bill of Mr. Walter Guinness (see Supplement, p. 191) would enable Local Education Authorities to recover the cost of the medical treatment of children, where such treatment is provided under Section 13 of the Education (Administrative Provisions) Act, 1907. Local Education Authorities already have power to recover the cost of meals from parents under the Education (Provision of Meals) Act, 1906. Parents who neglect to provide necessary medical aid are liable to conviction under Section 12 of the Children's Act of 1908, but there is no power to enable the local authority to recover the cost of treatment.

The Asylum Officers' Superannuation Bill, which passed a second reading before Easter, and was referred to a Select Committee, had its Committee appointed at the commencement of public business on Monday last as follows: Sir W. Collins, Mr. Hazleton, Mr. I. M. Henderson, Mr. Horniman, Mr. W. E. B. Priestley, Mr. T. F. Richards, Mr. Walter Roch, Mr. Stanier, and Sir John Batty Tuke.

Milk Supply in Egypt.—Mr. John Robertson asked the Secretary of State for Foreign Affairs on Tuesday whether, in view of the high death-rate in Egypt, he would urge upon the Egyptian Government the necessity of establishing a system of inspection of cowsheds and dairies, and milk cans coming by train. Mr. McKinnon Wood said that it was a question of internal administration on which there did not appear to be grounds for interference on the part of His Majesty's Government.

England and Wales.

[From our Special Correspondents.]

MANCHESTER AND DISTRICT.

The Children's Hospital Problem.

According to the annual report of the Manchester Children's Hospital recently issued, the pressure in the out-patient department on the staff and the accommodation has so increased of late as to constitute a serious problem. Altogether apart from the increase in the population of the area supplied by the hospital, there seems to be a growing tendency to resort to such institutions on the part of many who formerly would have made other provision. The fact is mentioned that the hospital was represented at the conference of hospital authorities convened by the British Medical Association in London about a year ago; as the outcome of the suggestion there made, changes have been introduced with a view to checking possible abuses of the charity by persons well able to make other provision for their sick children, for there was a strong feeling that such abuses had had the effect of deterring people from supporting the hospital as they otherwise would. The ordinary expenditure for the last year amounted to £11,079, which was £378 less than the income. The balance owing to the bank was £1,711 on the income account. The beds at the Pendlebury Hospital had always been kept well filled, while, as far as the dispensary was concerned, the past year provided the hardest and busiest year's work that the medical and nursing staff had ever had; even the new building with all its accommodation had on busy days been insufficient for their needs. The operations performed at the dispensary had risen from 486 in 1906 to 871 in 1907 and to 1,303 in 1908. This great and constant increase was due in large measure to pressure put upon parents by the school medical inspectors to have their children attended to. The report draws special attention to the deaths among children from diseases of the lungs, and continues:

> The massacre of the innocents hangs over our city like a moral black cloud, and that it is in part due to the physical black cloud which also hangs over us no one will doubt who studies our statistics and sees the figures relating to deaths from diseases of the lungs. And it should be remembered that for every child that dies from bronchitis, fully a hundred are by it deteriorated in constitution and physique, and rendered less able to resist disease in whatever form it may attack them.

There can be no doubt that the hospital is faced by a difficult problem which will have to be solved in the near future. On the one hand, the education authorities are pressing more and more for specialist treatment for the school children which in many cases general practitioners will not undertake except at a fee which the parents consider to be prohibitive. Parents who could afford to pay ordinary fees for general medical treatment, and who would be ineligible for free hospital treatment of a general kind, profess themselves, not without reason, unable to pay two guineas for removal of adenoids with the necessary anaesthetic at home. Theoretically such cases are suitable for the hospital, but their great number is taxing to the uttermost the power of the staff and the accommodation of the hospital. The suggestion has been made, quite unofficially, that the Education Authority should subsidize the hospital for the extra work it is doing for the community. But two objections are raised against this—first, that it is on the staff itself that the extra work falls, and it would be unreasonable to impose public work on them without personal remuneration. If this be done, the payment for each case would necessarily be small, and the amount paid might gradually come to be regarded by the public as the standard fee. In the second place, seeing that the hospital provides the accommodation, the anaesthetic, and all apparatus, as well as the nursing assistance, the hospital itself would have a claim for a considerable part of the subsidy. But no sooner would it become known that the hospital was being subsidized than at once private subscriptions would begin to fall off. People would refuse to give twice, once through the rates and again by private subscription, and the last state of the hospital would be

worse than the first. That all these difficulties are not merely theoretical is shown very plainly by the experience of Sheffield, where the experiment of subsidizing the hospitals has been tried for about a year, and has now been condemned as a failure by the Sheffield Division. Some time ago the Manchester Divisions expressed their entire sympathy with the Sheffield practitioners in their attempt—now likely to prove successful—to terminate the present system at Sheffield, and the object lesson ought to prevent anything similar in Manchester. Meanwhile, until the Education Authorities make some provision of their own, which they are under no compulsion to do, things will have to go on as at present at the Children's Hospital—that is to say, the honorary staff will have to consent to be overworked for the public good, and the hospital will have to continue increasing its rapidly rising deficit unless the subscriptions greatly increase. Another alternative is that the advice given by the school medical inspectors to parents shall be regarded as only the expression of a pious opinion.

LIVERPOOL.

NEW OUT-PATIENT DEPARTMENTS.

THE preparations for erecting the new out-patient department of the Royal Infirmary are being rapidly carried forward, and during the last two months the houses which occupied the intended site have been demolished. Apart altogether from the cost of the upkeep of the new department, the destruction of these houses involves a loss to the infirmary of £250 a year in rents. The preparation of the ground is going forward, and the ceremony of laying the foundation stone will be fixed for an early date.

At the Royal Southern Hospital a new out-patient department is also in contemplation. This institution was founded in 1841 under the name of the Southern and Toxteth Hospital, was rebuilt in 1867–72 at a cost of about £55,000, and was opened in May, 1872, by H.R.H. Prince Arthur, Duke of Connaught, when it was named the Royal Southern Hospital. The present extension will occupy a site in Caryl Street immediately opposite the main buildings. The land was acquired and cleared by the committee some years ago in anticipation of the funds necessary for building, and these it is understood are now forthcoming. The cost of a building providing for 50,000 attendances a year will be £8,500, towards which the Corporation of Liverpool is empowered to vote £4,000. There will still be required a sum of £1,200 for furnishing. The new building will be completely separated from the hospital, and will stand on a site measuring 960 square yards. The waiting hall, placed in the middle of the building, will be carried up considerably higher than the surrounding offices, and so enable it to be lighted on the four sides and to have a through ventilation. The building is to be faced with red pressed bricks and stone bands. The construction will be commenced almost immediately, and will be completed in about a year.

TROPICAL SCHOOL EXPEDITION.

Dr. Kinghorn and Mr. Montgomery, who went out to Central Africa on behalf of the School of Tropical Medicine to inquire into the possibility of checking the spread of sleeping sickness in British Central Africa, have just returned to England after a sojourn of nearly two years in those territories. The expedition was the eighteenth sent out by the school, and covered some 8,000 miles on foot, principally in North-Eastern Rhodesia and Nyassaland. The country is mostly a plateau from 3,000 to 5,000 ft. above the sea level. The temperature was not excessively hot, and at times the nights were frosty. The health of Europeans is usually good, and with a little care it is quite possible to avoid the complaints usually found in the tropics, such as malaria, dysentery, and tick fever. The cattle tsetse fly is common and very destructive, but the species which conveys the organism of sleeping sickness has apparently a limited distribution. It does not occur in Nyassaland.

HULL.

PLAGUE AMONGST RATS.

SEAPORT towns in direct communication with tropical ports infected with plague are always liable to infection, and in most instances this is brought about by the introduction of diseased rats. Dr. J. Wright Mason, Medical Officer of Health for Hull, in a report recently issued, gives an account of such an outbreak amongst the rats in Hull. Dead rats having been discovered in one of the sheds at the docks, some of them were examined bacteriologically by Dr. Thompson, Assistant Medical Officer of Health for Hull, and by Dr. Klein in London. The results were the same in both instances, bacilli resembling those of plague being seen in smears from the organs; these when cultivated and put through the various tests were shown clearly to be true plague bacilli. More dead rats found a fortnight or so later gave similar results, but these fortunately came from the same shed; and as inquiries had been made at all the other docks in port as to the discovery of dead rats, with entirely negative results, this indicated that the disease had remained localized to the original shed. The origin of the epidemic is not far to seek. From December, 1908, to the end of February, 1909, Dr. Mason states that six vessels from suspicious and plague-infected districts—namely, Alexandria and Karachi—had discharged cargo on the south side of that particular dock where the infected shed is situated. The escape of one infected rat from either of these vessels to shore would of course be sufficient. Disinfection of the shed and the destruction of rats has seemed to stamp out the outbreak, and fortunately no human beings have become infected. It will be well, however, to exercise special care for some months to come, as it is just possible that some disease-stricken rats have escaped, and these might spread the infection further.

DEVON.

RESEARCH DEFENCE SOCIETY.

A DEVONSHIRE branch of the Research Defence Society was formed last July. Its list of patrons and officers includes Earl Fortescue (Lord Lieutenant of Devonshire), Hon. W. F. D. Smith, M.P., Admiral Sir Wm. Acland, Sir Thomas Acland, and many other leaders of thought and action in the county. Mr. Eden Phillpotts, the well-known novelist, is president of the branch. Mr. W. F. Meres, of Torquay, the honorary secretary, states that the branch has been chiefly recruited hitherto from Torquay and the neighbourhood, but it is his confident hope that he will obtain an accession of strength from all parts of Devonshire. The list of members grows steadily. The Committee has arranged a series of lectures in different centres explanatory of research, and one of these was delivered last week at Exeter, before a large audience, by Mr. Stephen Paget, under the chairmanship of Dr. H. Davy, acting-President of the British Medical Association. The lecture was illustrated by a number of beautiful diagrams. Several antivivisectionists were present and sought to place their views before the meeting, but Dr. Davy, after taking a vote on the question, refused to allow them to do so.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

MEATH HOSPITAL, DUBLIN.

SIR HORACE PLUNKETT, C.V.O., presided at the annual meeting of the Meath Hospital, Dublin, on April 19th. The report showed that the debit balance, which at the beginning of the financial year was £5,610 19s., now amounted to £6,241 6s. 3d. This continued deficiency is a cause of much anxiety to the managing committee, which fears that it may be necessary to close a considerable number of beds; 1,549 patients were treated in the wards. The average daily number of beds occupied was 115.03. The number of accidents treated was 7,890. Sir John W. Moore mentioned that subscriptions had fallen off during the past few years, and in that connexion said that the statement which had been made with regard to that hospital, in common with other Dublin hospitals, that vivisection was practised within its precincts, was a deliberate falsehood. Sir Lambert Ormsby Mr. C. Lawler, J.P., Mr. W. S. Collis, Mr. P. C. Cowan, and Mr. Arthur Andrews, J.P., also addressed the meeting.

County Cork Sanatorium.

The laying of the foundation stone of the new Sanatorium for Consumption on April 14th has caused widespread satisfaction throughout the county of Cork. Her Excellency the Countess of Aberdeen, who has done so much throughout Ireland to assuage the ravages of the "white scourge," travelled from Dublin, at some personal inconvenience, to be present at the ceremony. On arrival at the site, Her Excellency was met by Mr. Arthur McDonald, the Chairman, and the other members of the Joint Hospital Board. On behalf of the Conjoint Board Mr. McDonald presented an address to Her Excellency, in which the Board expressed its sincere appreciation of her kindness in coming to lay the foundation stone of the first county sanatorium in Ireland to be erected and maintained for the treatment of poor consumptives. The address recorded that the Cork Joint Hospital Board was brought into existence over three years ago by a Provisional Order, and was entrusted with the function of establishing and maintaining a sanatorium for poor consumptives of the County and City of Cork. Considerable difficulty was experienced in securing a suitable site that would embrace all the recognized requirements. A little over a year ago, Mr. Langley Brazier-Creagh, a prominent member of the Board, with commendable generosity, offered the site at Streamhill as a free gift, which the Joint Board unanimously accepted, and it met with the approval of the Local Government Board. The funds for the maintenance of the sanatorium were provided by the exertions and influence of the members of the Cork branch of the National Association for the Prevention of Consumption, who succeeded in the unique task of getting all the rural and urban district councils of the county to consent unanimously to levy a rate of one penny in the pound, yielding over £5,000 a year. This, the first county sanatorium in Ireland beginning under such favourable auspices, would, it was hoped, prove a powerful weapon in combating the scourge which had worked such havoc in the country. Her Excellency was then presented by the contractor, Mr. Harbrow, with a silver trowel, and, having duly declared the stone well and truly laid, delivered an encouraging address, commending the action of the County Cork Board to the other counties of Ireland, and urging them to take their share in a fight which was not unto death but unto life. The guests included representatives of the various public bodies of the county and city of Cork, as well as of the Cork branch of the National Association for Prevention of Consumption, and the various Cork branches of the Women's National Health Association. Her Excellency was accompanied by Sir William Thompson, M.D., and Dr. E. C. Biggar, Medical Inspector Local Government Board. A luncheon followed, at which Her Excellency's health was proposed by Mr. McDonald and received with acclamation. Her Excellency replied, and speeches followed by the Lord Mayor of Cork, Mr. Brazier-Creagh, Mr. William McDonald, and others.

The site is situated at the foot of Ballyhoura Mountain, four miles from Buttevant station and eight from Mallow.

Scotland.

[From our Special Correspondents.]

Death of the Rev. Dr. Scott.

The ecclesiastical history and the ecclesiastical differences in Scotland which have had such a dominating influence in forming the Scottish character are somewhat of a mystery to those who have not lived in that country. In 1843 and for many years afterwards the Church of Scotland was shaken to its foundations by the great disruption, and that it has recovered to its present position is due in great measure to the influence exercised by a number of eminent men. Among them no one in the present day was more highly esteemed that the Rev. Dr. Scott of St. George's, Edinburgh. He was the recognized leader, and to his wise counsel and sound judgement the Church owes much. Dr. Scott died on April 15th, after a long and painful illness due to malignant disease of the prostate. One of the most conspicuous figures in the Church of Scotland, his death will be widely felt. It is but fitting that our profession, often so closely associated with the clergy, should express its sympathy with the sister profession in the great loss that Scotland has suffered by his death. Dr. Scott took an active interest in medical matters, and was at the time of his death a manager of the Royal Infirmary. Brought into intimate contact with the work of our profession and with many of its members, he showed on many occasions his appreciation of the work done by the medical profession and much sympathy with its members in the difficulties with which they often have to contend. He had the highest respect for the medical profession, and those among its members who knew him personally or by repute held him also in the highest respect, and recognized what a loss this eminent divine must be to the National Church in Scotland.

Hong Kong.

[From our Special Correspondent.]

The Proposed Hong Kong University.

His Excellency Sir Francis Lugard has now issued a memorandum setting forth the advantages to be gained by founding a university in Hong Kong, and stating that Mr. Mody, who has promised to erect the university buildings, has made it a condition that a sufficiently large endowment fund must be obtained before he begins the buildings. Mr. Mody at first stipulated that the endowment fund must be raised within six months, but has since signified his willingness to extend the time limit if necessary. His Excellency, in consultation with a committee of those interested in educational matters, has fixed the sum of $1,000,000 (one million dollars) as the minimum amount necessary for endowing a university whose standard shall be equal to that of the British universities. An appeal asking for generous support of the scheme has been widely circulated, and a large and influential Chinese Committee, having Hon. Dr. Ho Kai as chairman, is at work, and already several large donations have been promised. If the Chinese are really convinced of the advantages of a university in Hong Kong, there is no doubt that the endowment will soon be forthcoming. His Excellency the Governor has worked strenuously in the interests of the proposed university, and it is hoped that his efforts will be successful. Should the university be established, the Hong Kong College of Medicine will cease to exist as a separate institution and become incorporated as the Medical Faculty of the university.

The Opium Question.

At a meeting of the Legislative Council, His Excellency the Governor made a statement in regard to the opium question in so far as it related to the Hong Kong opium divans. As the result of correspondence with the Secretary of State, it had been decided that all the opium divans should be closed by March 1st, 1910. On March 1st this year, twenty-six licences had not been renewed, and the gradual diminution of the licences would give time to provide for supplementing the revenue from other sources. The Imperial Government had promised to help the colony financially in meeting the loss which will result from carrying out its commands.

St. Bartholomew's Hospital and Finchley Cottage Hospital both benefit under the will of the late Mr. Ebenezer Homan, of Friern Hatch, Finchley, the former receiving £1,000 for its Samaritan Fund and the latter £1,000 for general purposes and £500 for its Samaritan Fund.

The report presented to the annual general meeting of the Association of Medical Men Receiving Resident Patients showed that the number of patients placed during 1908 was nearly double that in 1907, but the applications received from patients were not commensurate with the high demand for membership. The financial position, which rendered it possible to lower the subscriptions last year, continued, in spite of increased advertising and clerical expenses, satisfactory. Further particulars can be obtained from Dr. Hubert Biss, Honorary Secretary, 56, Outer Temple, Strand, London, W.C.

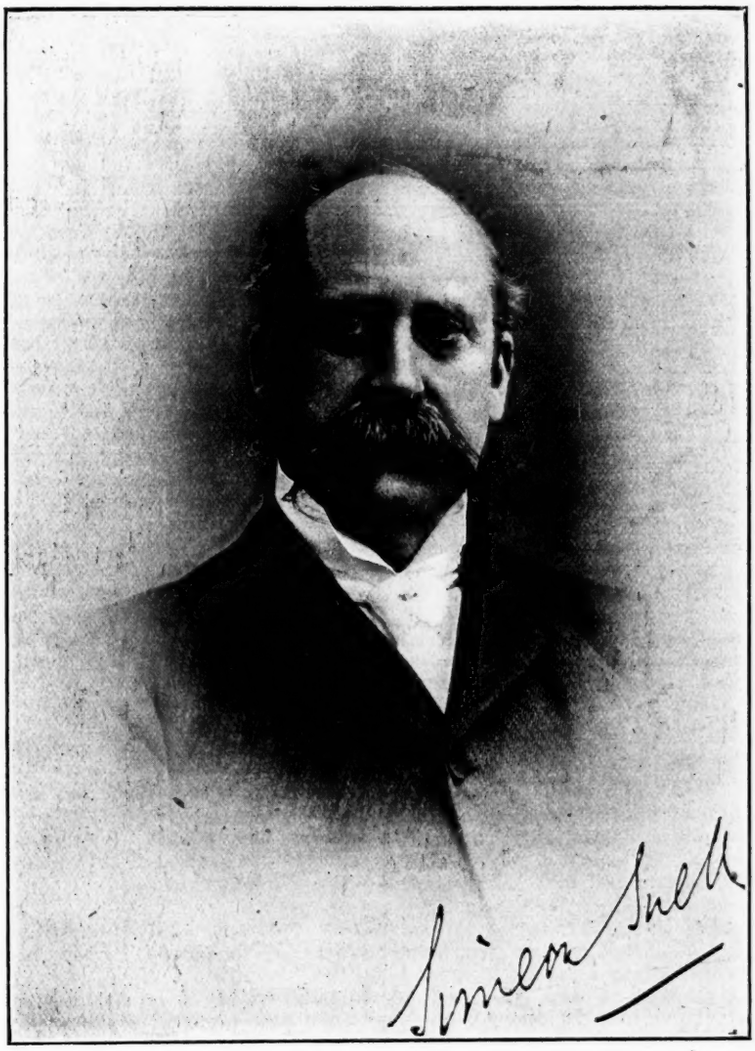
Obituary.

SIMEON SNELL, F.R.C.S.EDIN., D.SC.SHEFFIELD,

HONORARY OPHTHALMIC SURGEON TO THE ROYAL INFIRMARY, SHEFFIELD; PRESIDENT OF THE BRITISH MEDICAL ASSOCIATION.

WITH profound grief we announce the death of Mr. Simeon Snell, President of the British Medical Association, which took place at his residence, Moor Lodge, Sheffield, on April 17th. For upwards of a year the state of his health had caused anxiety to his friends, and those who were present at the annual meeting in Sheffield will remember that he looked far from well, and was obliged to delegate to others some of the rather arduous duties that fall to the lot of a President.

Acting on the advice of his medical attendants he took a long holiday immediately after the close of the meeting, and on his return to work relinquished some of the less important of his numerous engagements. For a time he appeared to be more than holding his own, and it was hoped that he might eventually make a complete recovery, but a sudden change for the worse set in about two months ago, and after considerable suffering, which he bore with heroic patience, the end came peacefully while he slept. He died of arterio-sclerosis and consequent heart failure. He was attended in his last illness by his friends, Dr. W. J. Martin, Dr. W. Dyson, Dr. Duncan Burgess, of Sheffield, and Dr. E. Colbeck of London.



Simeon Snell was born in October, 1851, near Launceston. He came of a medical family, his father, the late H. H. Snell, and several of his brothers being doctors. He was educated at Mannamead College, Plymouth, and pursued his medical studies at Leeds, Guy's Hospital, and Moorfields. He became M.R.C.S. in 1872, and L.R.C.P.Lond. in 1893, and subsequently took the diploma of F.R.C.S.Edin. He was an honorary D.Sc. of the Sheffield University, and for many years a J.P. for the City of Sheffield.

He settled in Sheffield in 1874, and soon afterwards was elected Honorary Ophthalmic Surgeon to the Sheffield Royal Infirmary, a post which he continued to hold until his death. He was Ophthalmic Surgeon to the Sheffield School for the Blind, and Consulting Ophthalmic Surgeon to the Mexborough Hospital. Throughout his entire medical career he was closely associated with the Sheffield Medical School. He took the warmest and most energetic interest in the project for establishing a university in Sheffield. His services in this matter were thus referred to by the *Sheffield Independent* in the course of a sympathetic notice of his career:

> It can be safely said that no one in the whole of the city entered with greater enthusiasm than did Mr. Simon Snell into the obtaining of a charter for the Sheffield University. He was foremost at the numerous meetings which were held in the East End and other works in the city on many days of the week to enlist the sympathy and support of the workers of Sheffield in a cause which he felt was vital to the future educational and industrial progress of the city. Any waverers who were sceptical about the utility of a university in the way of furthering Sheffield's industrial position were soon converted by Mr. Snell's modest yet convincing arguments. He was an active and enthusiastic leader, and it is not possible to overestimate the value of the services he rendered in bringing the scheme to a successful conclusion.

When the university was constituted and when the Sheffield Medical School was merged in it, Mr. Snell was appointed Professor of Ophthalmology, and allotted a seat on the council.

Mr. Snell's connexion with the Sheffield Royal Infirmary extended over a period of thirty-two years, and until his last illness he made a point of personally superintending the huge clinic which twice a week filled to overflowing the large out-patient rooms. In this way he had unrivalled opportunities of becoming practically acquainted with the accidents and diseases of the eye which arise among workmen engaged in the trades for which Sheffield is famous, and in the coal mines the proximity of which has been so great a factor in the prosperity of the city. These opportunities he turned to admirable account, and many of his numerous valuable contributions to the literature of the profession dealt with trade diseases and accidents, in the study of which, as affecting the eye, he was a pioneer. Among his writings mention may be made of papers on the electro-magnet and its employment in ophthalmic surgery; miners' nystagmus; school life and eyesight; practical examination of the eye; prevention of eye accidents in certain trades; Report to the Home Office on alleged dangers from using masks and eyeguards in aërated water manufactories; acquired nystagmus from occupations other than coal mining; inquiry into the causes of blindness. The last paper, which was read at the Exeter meeting, resulted in the formation of a Special Committee of the British Medical Association for the purpose of considering the prevention of ophthalmia neonatorum.

He deservedly enjoyed a high reputation as an ophthalmic surgeon, and patients from a very wide area flocked to his consulting rooms. The appreciation of his work by his contemporaries secured for him many

distinctions. He was a former Vice-President of the Ophthalmological Society of the United Kingdom, Vice-President and, later, President of the Ophthalmological Section of the British Medical Association, President of the Yorkshire Branch of the British Medical Association, and of the Sheffield Medico-Chirurgical Society. A pupil of Wheelhouse, Clifford Allbutt, and Pridgin Teale, he remained their lifelong friend.

The crowning honour to a distinguished career came less than a year ago when, on the unanimous recommendation of his local compeers, he was elected President of the British Medical Association. On the recommendation of the Science Committee the Council of the British Medical Association performed the graceful act of conferring on its newly-elected President the Middlemore prize for his distinguished services to ophthalmology.

In earlier years he did much and excellent spade work, and there are few organizations in Sheffield that have not at one time or another experienced his effective help.

He was one of the hardest-working secretaries of the Sheffield Medico-Chirurgical Society, and on vacating this post to become President of the Society, his services were suitably acknowledged by the presentation of a massive piece of plate.

It was not in the practice of his profession alone that his great abilities and wonderful energy found outlets. He founded, and for many years was editor in chief of, the *Sheffield Medical Journal*. The success of this venture was so great that in a few years it was found necessary to broaden its title to that of the *Quarterly Medical Journal*. He wrote an interesting history of the medical societies of Sheffield, and was joint author of the history of the Sheffield Royal Infirmary.

For many years he took a leading part in the management of the Sheffield Literary and Philosophical Society, and with his co-secretary and intimate friend, the late Professor Clifton Sorby, F.R.S., raised it to the high position it now occupies among similar institutions. Ever ready to help a professional brother in distress, he was an active supporter of the West Riding Medical Charity. He was a devoted husband and father, and leaves a wife, two sons—one of whom has just entered the profession—and three daughters.

His remains were interred in Fulwood Churchyard on Wednesday, April 21st. The Right Rev. the Lord Bishop of Sheffield read the burial service, and the funeral was attended by a very large number of the members of the medical profession in Sheffield and the surrounding districts, by representatives of the Sheffield Royal Infirmary, the University, the Sheffield Medico-Chirurgical Society, the Sheffield Division of the British Medical Association, the Literary and Philosophical Society, the Blind Institute, the Sheffield Book Society, and by a host of former friends and patients, and by Dr. J. A. Macdonald (Chairman of Representative Meetings), Dr. Rayner (Treasurer), by Drs. Goyder and Sinclair White, members of Council, and Dr. Turner, President of the Yorkshire Branch of the British Medical Association. The Chairman of Council, who was abroad, was represented by Mr. Guy Elliston.

The Bishop of Sheffield in his sermon on Sunday last at St. Mark's Church, where Mr. Snell was a regular attendant, made reference to the loss which Sheffield had sustained. There was missed, the Bishop said, that day from the great and growing city one who during the last quarter of the nineteenth century and the first decade of the present had done more than most men to help forward the interests of Sheffield, and to make it famous amongst eminent and scientific men. During that period the progress and expansion of the city had been remarkable. Dr. Snell had taken his part in it, and he had been one of the makers of modern Sheffield. It was given to few men, the Bishop went on, to make their mark so early in life as did Dr. Snell, and still fewer to be able to add fame and renown to their reputation even to the very end. As one of the pioneers of the university he associated himself with the educational progress of the city. He was honoured last year by having conferred upon him the degree of a Doctor of Science, the highest distinction of its kind. Yet it was not by his honours that he would be remembered, but for his services to mankind.

Dr. HENRY DAVY, of Exeter, Mr. Snell's immediate predecessor in the office of President of the British Medical Association, writes:

No one has had a better opportunity than myself during the past eighteen months of seeing the keen interest which our late President took in the British Medical Association. When, during last January, Mr. Snell went to Torquay for his health, he asked me to visit him there to talk over the affairs of the Association with him, and only last week, in a letter dictated to me from his bedroom, he said he hoped soon to be well enough to discuss business again. Mr. Snell had a very high sense of duty, and his first consideration as President was to try and act for the good of the Association, whether his action would bring him popularity or not. In all my intercourse with him I was struck by his painstaking thoroughness and the straightforward way in which he spoke out his thoughts. His ancestors came from Newton Ferrers, near Plymouth, and he was educated at Plymouth Grammar School. Although he had resided so long in Yorkshire, he remained a Devonian at heart. He

was always at home in his native county, and never was happier than when residing at his house at Teignmouth, which he occupied every summer. I feel that by the death of Mr. Snell during his year of office the Association has suffered a great loss. No one was a warmer or truer friend of the Association, or had its best interests more keenly at heart.

Sir ANDERSON CRITCHETT, Bart., writes: Ophthalmologists have recently had cause to realize with sadness that "the Angel of Death has been busy in our midst." It seems but yesterday that Argyll Robertson was taken from us; and now, after brief interval, he is followed into the silent land by his devoted friend and former pupil, Simeon Snell.

I shall always remember the latter as one of the most strenuous and conscientious workers in the profession. Had he been less prodigal of his boundless energy we might perhaps have been spared his untimely loss; but his faculties were ever at concert pitch, and he seemed to realize to the full Elizabeth Barrett Browning's terse and forcible injunction, "Get work; be sure 'tis better than that you work to get."

From the foundation of the Ophthalmological Society of the United Kingdom, Snell was one of its most loyal and consistent supporters. He contributed numerous valuable papers, and at his own expense he on many occasions brought interesting cases from Sheffield. Whenever there was an important question for discussion, he made the long journey from the North, arriving just in time for the meeting, and then, at its conclusion, rushing off to catch a midnight train. It is a matter for deep regret that the penalty for such consistent devotion to duty has been so heavily and so prematurely paid.

The summit of his professional career was reached when he was elected President of the British Medical Association, an honour which till then had never been achieved by any English ophthalmic surgeon, and he devoted his last store of energy to the duties of that high office, with the result that the meeting last year at Sheffield was one of the most successful on record. But the handwriting was already on the wall, and those who knew him best recognized with pain the gallant struggle of the indomitable spirit against rapidly failing powers.

Much of his work deserved, and will, I am convinced, obtain, permanent record; and as an instance of his thoroughness I may mention that at some personal risk he made many descents into coal mines whilst studying those special types of nystagmus concerning which he has written so well and so voluminously. He was probably without a rival in his experience of foreign bodies within the globe.

We can ill spare from our ranks one who possessed such high qualities of loyalty, integrity, and intellectual capacity, and Simeon Snell will ever be held in most kindly remembrance by all who had the good fortune to enjoy his friendship.

A colleague of Mr. Snell writes:

I desire to offer my tribute to the memory of a truly remarkable man.

His character may be summed up in the qualities of extraordinary energy, indomitable courage, transparent honesty of purpose, and a profound belief in himself. When Snell took anything in hand it was sure to succeed, if success was possible. An exceedingly busy man, unsparing of his energies, he got through an amount of work which to many would appear incredible. This was achieved by methodical habits, and by virtue of the faculty he possessed of doing most things outright at once. It is needless to say that such a character occasionally evoked opposition, but though a keen fighter he always fought with legitimate weapons, and in the open.

He was a man of many parts, and contrived to stamp his individuality on everything he did. As an ophthalmic surgeon he took high rank. A rapid yet profound observer, with a wealth of material at his disposal in the huge ophthalmic department of the Royal Infirmary, it was inevitable that he should come to the front in his speciality, and for many years he was the acknowledged leader in ophthalmology throughout a very wide area, while his contributions to the literature of his subject gained for him a world-wide reputation. He was especially brilliant as an operator, and I have been repeatedly told by competent observers of his work that they had rarely witnessed its equal. He instinctively appeared to know the right thing to do, and did it with a celerity and delicacy of touch which marked him as an artist in his speciality.

THE LATE MR. C. G. WHEELHOUSE.

DR. WARD COUSINS writes: Permit me to add a few words to the interesting biographical sketch of my old friend, Mr. C. G. Wheelhouse, which appeared in the last issue of the JOURNAL. Many years ago at the meetings of the Committee of Council I had the pleasure of meeting him, and I well remember his energy in promoting all the interests of the Association, and how greatly his help and co-operation were valued by all his colleagues. When the constitution in 1883 underwent reconstruction by the introduction of Branch representation he expressed some anxiety about the future of the Association, but in a very short time he recognized the importance of the changes which had taken place at the vital centre. Mr. Wheelhouse long occupied a distinguished position as a surgeon, and I desire especially to record my appreciation of the great improvements he introduced in perineal surgery which will always be associated with his name. He was the originator of a great advance in the treatment of severe and impassable urethral stricture. Until then external urethrotomy was generally performed without a staff, and it was regarded as an operation of extreme difficulty and danger. The important modification which Mr. Wheelhouse introduced is to-day known as the "Leeds operation." He published a full description of the method in the BRITISH MEDICAL JOURNAL of June 24th, 1876, and it was at once recognized as a great advance on the old haphazard operation. After putting in a straight guide up to the seat of the constriction, he explored the urethra by a free incision, and looking into the angle of the exposed and dilated passage, he passed through the constriction a director into the bladder, and then divided freely and often subcutaneously the whole length of the diseased tissues. By this simple and ingenious method the performance of an old, difficult, and dangerous operation was rendered at once both easy and successful, and to-day "a Wheelhouse" is practised in every hospital in the kingdom. I feel confident that all the members who enjoyed the advantage of knowing our old and much-esteemed friend will never forget his kind and genial presence, and all his invaluable services in the development and progress of the Association.

CHARLES BELL TAYLOR, M.D. AND F.R.C.S.EDIN.

WE have received through the Chairman of the Nottingham Division of the British Medical Association the following tribute from a friend to the late Dr. C. B. Taylor, of Nottingham, who died on April 14th, in his 80th year:

"Charles Bell Taylor was born at Nottingham, where his father and brothers were well-known veterinary surgeons; and to Nottingham came patients to consult him from all parts of the world to the end of his long career. He was a masterly operator, but it may be doubted whether it was mainly to this that he owed his fame. It was his personality which drew and held his patients. No one who had seen him would readily forget him. Tall and dark and commanding, his piercing black eyes looked out under his deep brows with an expression of peculiar intensity. Some of his patients were afraid of him, far more were attracted, and all were dominated by him.

"He was a great individualist, and all that interfered with the liberty of the individual met with his uncompromising and eloquent denunciation; and the opponents of compulsory vaccination, of the Contagious Diseases Acts, and of vivisection, found him a powerful ally on their platforms. Beyond this he took little part in public affairs, his own special work providing full occupation for the energies of an unusually vigorous mind.

"The amount of work he did was enormous. For many years, in addition to his private practice, he did a large proportion of the work of the Nottingham and Midland Eye Infirmary. He never had a qualified assistant; even the services of a trained nurse appeared to him a boon of

doubtful value. Until his last brief illness (influenza) he was never, even for a day, deterred by ill health from seeing his patients. Probably his abstemious mode of living combined with his great vitality to produce this result; he never had more than two meals a day, and he abstained altogether from alcohol, tobacco, and even from tea and coffee. Certainly it is given to few men to perform, as he did, at 80 years of age, the most exacting operations, with a hand as steady as in his prime.

"Perhaps the characteristic of his operating which struck one most was his entire imperturbablity; the eyeball seemed as if it were clay in his hands, to be moulded at his will. He always operated by artificial light, and a striking picture might have been made of the curtained room, with its single lamp, its rays concentrated on the face of the patient by an enormous globe of water, giving something of the air of an alchemist's chamber to the scene, while above the patient's head loomed the strongly-cut features of the operator, and among the shadows flitted William, the attendant, with the instruments; and further back, perhaps, was a suggestion of the hushed figures of the patient's friends.

"His favourite operation was that for cataract, which he did, whenever it was possible, without an iridectomy, placing his rather large incision exactly in the corneo-scleral junction, and delighting—with the delight of an artist—in his work, in the result of 'an operation without a scar.'

"In his choice of anaesthetics he was, as in many other things, peculiar; for, though educated at Edinburgh in the days of Simpson, he held chloroform in abhorrence, and used to rapidly smother his patients with ether vapour almost undiluted with air, and it is believed he never had a mishap. The writer has seen him extract a cataract without any anaesthetic, local or general, and without the flicker of a muscle on the part of operator or patient—a striking testimony to the magnetic influence of his personality.

"It is a truism to say that the surgeon must have confidence in himself before he can communicate it to his patients, and this Bell Taylor possessed in a supreme degree. It was said that the expression 'I can't' did not occur in his vocabulary.

"His great skill was as freely given to the poor as to the rich, and beneath all the peculiarities of the man was a nature of real simplicity and kindliness."

HENRY STILWELL, M.D.

After a short illness, Dr. Henry Stilwell, late of Moorcroft, Hillingdon, died, aged 73, on April 12th, at Eastbourne, where he had lived since his retirement in 1906.

After leaving Rugby School, he entered St. Bartholomew's Hospital in October, 1853, and, after spending a year at Edinburgh, obtained the degree of M.D.Edin. and the diplomas of M.R.C.S. and L.S.A. in 1857. After a visit to Australia, he assisted his father, the late Mr. James Stilwell, F.R.C.S., in general practice at Uxbridge for two years. He was then called upon to join his cousin in the management of the asylum in that district. For upwards of forty-five years he held the position of Medical Superintendent at Moorcroft, Hillingdon.

He was an old member of the British Medical and Medico-Psychological Associations, and until recently was a frequent attendant at their meetings. For many years he was the local Secretary of the Epsom Benevolent Fund. In his social as well as professional spheres Dr. Stilwell was always held in high esteem, being regarded by every one as a man of the strictest integrity. In his asylum life he was a successful organizer, and was much liked by his patients, to whom he gave much of his time and personal attention.

As an alienist his opinion was sound, although cautious as to prognosis. A man of many parts and fond of reading, he did not neglect to preach and practise the doctrine of physical exercise and outdoor life. In bygone years his chief recreation was hunting, and he was regarded as a good judge of a horse. Latterly he had taken to golf. He was well known as a member of the Edinburgh University Club, and he attended regularly the decennial dinners of St. Bartholomew's Hospital. Dr. Stilwell leaves his wife, son, and three daughters to mourn his loss. The funeral, which was held at Hillingdon on April 16th, was attended by his son, sons-in-law, and many sorrowing friends.

WILLIAM GABRIEL ROCKWOOD,

CONSULTING SURGEON TO THE COLOMBO GENERAL HOSPITAL.

News has been received of the death, on March 29th, of Dr. W. G. Rockwood, a Cingalese practitioner of much distinction, and one well known to many of his colleagues in this country. Dr. Rockwood, who was a Tamil by birth, was born in Jaffna, Ceylon, in 1843, his father being a Subcollector of Customs. He received his general education partly in Ceylon and partly at the Presidency College, Madras. At the latter institution he gained a scholarship, and passing on to the Madras Medical College in 1861 received the licence of the College after a five years' course. At a later date he obtained the degree of M.D. of the University of Madras; and still later was admitted to the Membership of the Royal College of Surgeons in England. Meantime he had returned to his native country, and obtained appointment in the medical department. He proved from the first a most excellent officer, his professional work attracting so much favourable attention that on the death of Dr. Koch he was appointed Surgeon-in-Charge of the General Hospital, Colombo, and the Lying-in Home. This appointment carried with it that of Lecturer on Surgery and Midwifery at the Ceylon Medical College, which he held for many years, finally retiring from Government service under the age limit in 1898. His professional services were then recognized by the creation of the post of Consulting Surgeon to the hospital and his appointment thereto, and a little later he was selected by the Governor to represent the Tamil community in the Legislative Council. It was a happy choice, for he brought the same industry and intelligence into play in his new duties as he had previously exhibited in professional connexions, and on the termination of his five years' period of office he was reappointed for a like term. Not long after this event his health unfortunately showed evidence of failure, and finally in 1906 an attack of paralysis led to his giving up both professional and political work altogether. During his active life Dr. Rockwood contrived to find plenty of time for social and professional intercourse, and took a keen interest in the affairs of the British Medical Association. At one time he was President of the Ceylon Branch, and on several occasions came to England to attend the Annual Meetings. His last visit was in 1902, when he attended the Meeting at Manchester as a delegate of the Ceylon Branch. His ability, industry, and sound judgement gained him a well justified reputation, and made him so useful a member of the community in Ceylon, that, despite the fact that he appeared rarely in public after his retirement, his services were not forgotten. Widespread regret was aroused by the news of his death, and was expressed on behalf of the Government by a telegram from Sir H. E. McCallum to his family, and by the attendance at his funeral of representatives of all sections of society. Dr. Rockwood was married, and is survived by several daughters and sons, two of the latter being medical men.

We regret to record the death on April 5th of Dr. Edmund Wearne Clarke, of Chesterfield. He had been resident in Chesterfield for many years, and for long was so prominent a figure that his death at a comparatively early age leaves a much-regretted blank. It was due to heart failure and occurred quite unexpectedly. Dr. Clarke was a Cornishman by birth, but received his education in Edinburgh, which he left in 1885, after a student career of considerable distinction. During its course he devoted much more time to pure science than is common among medical students, and was rewarded for his pains by the B.Sc.Edin., as well as by the M.B., C.M.Edin. A year later he became M.R.C.S.Eng., and then went abroad to continue his medical studies, partly in Paris, partly in Germany. Finally, he presented himself for the M.D. of his old university, devoting his thesis to appendicitis, a comparatively new subject at that date. In Chesterfield he settled down some seventeen or eighteen years ago as successor to the late Dr. MacDougall, whose practice he materially increased. Of late years, however, he had restricted his professional energies, and devoted a great

deal of his time to literary occupations. In addition to his knowledge of modern languages he was a good classical scholar, and at the time of his death was engaged in the compilation of metrical translations of some of the Greek and Latin writers whom he more specially favoured. Another matter in which he took special interest was first-aid work. As a lecturer to the local branch of the St. John Ambulance Association he was particularly successful, and his work for the corps had recently been recognized by his appointment as an examiner to the central body. He was also a member of the Royal Physical Society of Edinburgh, and for a good many years took an active part in the proceedings of the Sheffield Medico-Chirurgical Society, of which he was at one time President. Dr. Clarke was married, and is survived by his wife, the youngest daughter of Mr. Bowery Douglas.

DR. THOMAS CRAWFORD HAYES died on Monday, April 5th, at his residence in Clarges Street, W., after a long illness. He was the son of Frederick William Hayes, a mill-owner in county Down, and was born at Seapatrick, Banbridge, on October 18th, 1843, the youngest of nine children. His father died when he was 9 years old. At the age of 7 he was sent to Dr. Forrester's school in the Isle of Man, and was afterwards instructed by a private tutor until he returned to Ireland. He originally intended to enter the Church, but after becoming a student at Trinity College, Dublin, he found that he felt more fitted for the cure of bodies, and during his college career he spent much time in coaching younger and more backward fellow students. Precocious as a child at school he proved brilliant as a student at Trinity. He became a Senior Moderator and Gold Medallist at Trinity College; afterwards he studied at King's College, London, and became House-Physician to the hospital. He obtained the diploma of L.S.A. in 1870, that of M.R.C.P. in 1872, and graduated M.B.Dub. in 1873; he graduated M.D. in 1875, and was elected F.R.C.P. in 1889. In 1872 he was appointed Assistant Physician for Diseases of Women and Children, and Assistant Accoucheur to King's College Hospital, and seven years later succeeded to the appointment of Physician for Diseases of Children, and Physician Accoucheur to in-patients and out-patients; Dr. Playfair, holding a similar appointment, reckoned as senior. In 1898 Dr. Hayes became Physician Accoucheur, the title given to the senior appointment, Drs. Playfair, Hayes, and J. Phillips working together at the hospital for several years. Dr. Hayes also held corresponding teaching appointments at King's College, beginning as Lecturer on Practical Obstetrics in 1889. He was appointed Professor on Practical Obstetrics in 1896, and Professor of Obstetric Medicine and Diseases of Women and Children in 1898. On his retirement in 1906, Dr. Hayes was made Consulting Physician to the hospital, and Emeritus Professor to the College. He was also on the medical staff of the Royal Free and other hospitals, and was for a time Examiner in Midwifery and Diseases of Women on the Conjoint Board. Dr. Hayes wrote little; he was, however, an active Fellow of the Obstetrical Society of London in the Eighties, exhibiting many specimens and reading clinical reports of considerable interest.

WE regret to have to record the death of Mr. THOMAS WILLIAM NUNN, Consulting Surgeon to the Middlesex Hospital, which took place at his country residence, near Royston, on April 13th, after a very short illness. He was 84 years of age, and until within the last few years was a familiar figure in London. Several generations of students of the Middlesex Hospital will have pleasant recollections of him, as he was on the active staff from 1846 to 1879, when he was appointed Consulting Surgeon. Mr. Nunn received his medical education at King's College, of which he was a Medical Associate, and where for a time he assisted in teaching anatomy. In 1846, however, he was appointed Demonstrator of Anatomy at the Middlesex Hospital, to which institution he remained attached, and where he was often to be found for the rest of his life. He was appointed Assistant Surgeon in 1858, Surgeon in 1863, and Consulting Surgeon in 1879. He taught anatomy for sixteen years, and gave it up, much to the regret of his pupils, to teach practical and operative surgery, which he continued to do till 1873. He served for a time as a combatant officer in the Militia, but after a few years changed this for a medical commission, and joined the West Middlesex Rifle Volunteers, from which he retired as Surgeon-Major after over twenty years' service, receiving the Volunteer Decoration. His chief publications were on the subject of cancer, particularly as to its treatment, but he also contributed papers on various subjects to the medical journals and the Clinical and Pathological Societies; of the latter he had been a Vice-President. He was twice married, and leaves a widow but no family. His funeral took place on April 19th in Royston Cemetery, and was attended by some of his old colleagues and pupils.

ON March 30th there passed away, in the person of GEORGE PERCIVAL HADLEY, of Lozells Road, Birmingham, a well-known and highly respected practitioner of medicine. He was born in 1845, the son of John Joseph Hadley, who was for many years a general practitioner in Birmingham. He was educated at King Edward School, Birmingham, from whence he passed the matriculation of the London University. He commenced his medical education at Sydenham College and the General Hospital, Birmingham, and obtained the M.R.C.S. in 1867, and the L.S.A in 1868. Afterwards he proceeded to the Queen's College, Belfast, where he obtained the M.D. in 1868. Shortly after this he purchased a practice in the Lozells district of Birmingham, and continued to practise there until a few years ago, when the condition of his health compelled him to retire. In his early life he was for some years a Surgeon in the Birmingham Rifle Corps, and shortly after settling in the Lozells became a member of the Aston Manor Local Board; he was one of the first members of the Free Libraries Committee, and took a deep interest in the work connected with that institution. As his practice grew Dr. Hadley was compelled to relinquish these public offices, but he continued to take a great interest in the work of the Established Church, of which he was an ardent member. He did much for his parish church (St. Paul's, Lozells), being first a member of the Building Committee, then for many years Vicar's Warden and Treasurer of the Home Mission Fund. He was a member of the British Medical Association and the Midland Medical Society, and one of the oldest subscribers to the Birmingham Benevolent Society. He was twice married, and leaves by his first wife a family of three sons and five daughters. One of his sons is following his father's profession, and is a graduate of the Birmingham University. His second wife survives him. Such is a short account of a man who was a firm friend and a conscientious adviser in all matters connected with his profession. His retirement was much regretted by his former patients, and he will now be greatly missed by his personal friends.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Theodor von Dunin, Physician to the Hospital of the Child Jesus in Warsaw; Dr. J. P. Barette, Professor of Clinical Surgery at the Medical School of Caen, aged 54; Dr. von Mangoldt, a leading surgeon of Dresden, where he had charge of the surgical department of the Olga Hospital, aged 50; Dr. N. S. Speransky, Lecturer on Dermatology and Syphiligraphy in the University of Moscow; Dr. Phineas S. Conner, for forty years Professor of Surgery in the Medical College of Ohio, aged 80; Dr. Robert Raeburn of Washington, one of the surgeons who attended President Garfield on his deathbed, and was for some years Dean and Professor of Hygiene and Preventive Medicine in Howard University, aged 75; Dr. W. F. Woskressenski, Professor of Operative Surgery and Topographical Anatomy in the University of Charkoff; Dr. Theodor Haase, Member of the Austrian House of Lords, and a well-known sanitarian and promoter of the building of hospitals, aged 74; and Dr. E. Kufferath, Professor of Obstetrics in the University of Brussels.

TUNBRIDGE WELLS lost in March a much-valued inhabitant in the person of Dr. JAMES BISSHOPP, of Mount Pleasant. He was a cadet of a very old Sussex family, and received his medical education partly at St. George's Hospital, partly at Guy's. Entering the latter in 1846, he was a member of the Guyite Club, and at the date of its dissolution a year or two ago was one

of its only three survivors. There are now only two, Mr. Thomas Bryant, Consulting Surgeon of the hospital, and Dr. Samuel Knaggs, of Huddersfield. In Tunbridge Wells Dr. Bisshopp established himself in practice some forty years ago, and he had only given up work within the last ten years. He was over 86 when he died, but his work was not forgotten, and being a man of singularly cheerful, friendly nature, and until lately in comparatively good health, he continued to play a pleasant part in the life of the locality in spite of advancing age.

Correspondence.

THE PREPARATION OF CATGUT FOR SURGICAL PURPOSES.

Sir,—The interesting and suggestive paper in the Journal of April 17th by Mr. W. G. Richardson on Tetanus after Operations, with the query, Is the infection introduced by catgut ligatures? and the able leading article in the same number, will, it is hoped, elicit further information on the mysterious "tetanus" side of this important question, to which I shall not further allude.

My object is to ask on the part of surgeons a more general and thorough appreciation of Lister's (1) perfected method of preparing catgut and (2) method of sterilizing skin and instruments before operation.

1. The method of catgut preparation is referred to in the editorial article to which I allude. It relates to the "green catgut," prepared by soaking twenty-four hours in sulphate of chromium, and was made known to manufacturers in 1894, but never published until January 18th, 1908, in this Journal by Lord Lister himself. That brief account I venture to call a complete description of the simplest, quickest, and most durable form for all purposes, with perfect tests of its efficiency added.

I note that Mr. Richardson had some of his catgut soaked in ether, then placed in mercury biniodide dissolved in 1,000 parts of methylated spirit, other portions being boiled for an hour in absolute alcohol. Without disparaging these and other different methods of more or less efficiently "tanning" catgut for surgical purposes, and without prejudice to Mr. Richardson's modest and candid statement of his experiences, I now suggest that it can hardly be further advisable to depart from the methods, conclusions, and preference expressed by the author of antiseptic surgery. Those surgeons who, like myself, have from time to time for years blindly relied on this form of catgut, as issued in dry hanks from the shops, and made ready for use by steeping for a quarter of an hour in 5 per cent. carbolic lotion, have found it in every respect satisfactory. But among the many pitfalls of antiseptic practice, especially when complicated by great variations in ritual, catguts of various make have sometimes been accorded a bad name, and surgeons have resorted to their own methods of preparation, often excellent, in preference to risking that of the shops, for want of knowing that the green variety has all along been that of Lister. Even the publication on January 18th, 1908, must, if even only for a time, have been overlooked by some, as it actually was by myself.

2. On June 27th, 1908, Lord Lister published also in this Journal Remarks on Some Points in the History of Antiseptic Surgery, constituting a wonderful epitome of the aims and methods of his antiseptic practice, in a space of less than two pages. In this is stated his invariable practice during forty years of relying on 1 in 20 carbolic solution in water for sterilizing the hands and instruments of the operator, and the skin of the patient, without previously removing the grease from the latter, or wetting the epidermis, much less scrubbing with soap and water In this paper he says:

> I cannot but think it a happy circumstance that this substance, which I employed first in endeavouring to apply the antiseptic principle, should have been so admirably adapted for detergent purposes. And it has grieved me to learn that many surgeons have been led to substitute needlessly protracted and complicated measures for means so simple and efficient. The fear sometimes expressed of poisonous effects from carbolic acid, as used in antiseptic surgery, is, so far as my experience goes, entirely groundless.

Probably the brief duration of Lister's exposure of the skin to carbolic lotion before operation protected his patients from the poisonous symptoms that others have occasionally met with.

If these two brief papers, from one of the first and from the last number in this Journal of vol. i, 1908, were mounted and hung up in every hospital and medical school for repeated study by all engaged in surgery, they would serve an invaluable purpose by spreading and simplifying antiseptic precautions among all concerned, and not least among those who are chiefly likely to encounter "minor" cases, for, when these "go wrong," much "major surgery" may result.

I well remember the interest aroused by the appearance in 1867 of Lister's communications "on a new method of treating compound fracture, abscess, etc.," and the excitement produced in myself and fellow-students and house-surgeons at University College and Hospital in 1868 and 1869 by the publication of his early "ligature of arteries on the antiseptic system," first by carbolized silk and then by carbolized catgut. To many it must be a welcome announcement, made in this Journal on April 10th, 1909, that Lister's collected papers and addresses are shortly to be published in two volumes by the Clarendon Press.—I am, etc.,

Rushton Parker,
Professor of Surgery in the University of Liverpool.

HUNGER PAIN AND DUODENAL ULCER.

Sir,—Mr. Mansell Moullin has stated the surgical opinion concerning hunger pain with perfect clearness. Of the cause of this pain I am not sure that we know the correct explanation, and all that I am prepared now to admit is that the time of the onset of pain corresponds to the time at which the food begins to come in contact with the ulcer. And a similar statement may be made about the "prepyloric" ulcers on the lesser curvature, whose exact position can often be predicted before operation. I should be interested to hear if Mr. Mansell Moullin has considered the possibility of the peritoneum being the sensory surface; especially in view of recent work. The duodenal ulcer which has caused attacks of "hunger pain" has always reached the serous coat. The phenomenon of pylorospasm has, I am sure, symptoms different from "hunger pain." I think I know them now sufficiently well to be able to say in many cases that the lesion will be not in the duodenum, but elsewhere, and to forecast its nature and position. But I will presently return to this point after I have dealt with the fallacies of Dr. Hertz.

Dr. Hertz is troubled at my disbelief in *post-mortem* statistics, and, in wonder, asks me if I believe "that the bodies of people with duodenal ulcer go straight to another world without passing through the *post-mortem* room." Most certainly I do believe this of the vast majority. Does any one doubt it? Does Dr. Hertz suppose that anything more than a very insignificant proportion of bodies pass through the *post-mortem* room? The patients admitted to hospital are a very small fraction of the total number of sick people. Of patients so admitted about 5 per cent. (let us say) die. Not all the bodies of those who die are submitted to *post-mortem* examination. Of the bodies so examined, a lesion not immediately concerned in the death of the patient may well be overlooked, no matter where or by whom the inspection is made. Yet inferences drawn from these probably imperfect records of a very small, and in no sense representative, proportion of the total deaths are considered to have a strict numerical application to the diseases of the living. When the surgeons speak of the frequency and of the clinical features of duodenal ulcer or cholelithiasis, of pancreatitis, or of common duct obstruction, or of many other conditions, we are supposed to be answered, and to have our experience and conclusions tested and refuted, by a reference to the imperfect records made in the ancient days when little or nothing was known of these various diseases. It is worth while, then, to follow Dr. Hertz in his digression to shatter the idol which he and others have worshipped with such ecstasy. It is a poor dead doll.

I showed in my last letter that Dr. Hertz confused the relief of an "attack" in a patient suffering from duodenal ulcer with the cure of the disorder, and that he omitted to take note of recurrences. But, I am told in reply (a variant of the eternal *tu quoque*), recurrence also takes place after surgical measures have been practised. What is the evidence Dr. Hertz gives of this? It is that he has been

consulted by three patients for the return of symptoms after repeated operations undertaken for the relief of "supposed gall stones or gastric ulcer." The argument is that since in these three cases repeated operations whose nature is not mentioned were undertaken for symptoms whose origin was never determined, the conclusion must be drawn that the treatment of duodenal ulcer by operation is followed by recurrence. Is it necessary to answer that? Refutation of that kind of logic is too easy to be amusing. Dr. Hertz as a disputant delights me; but I could not persuade myself again to take him seriously.

Dr. Irwin's letter is a valuable record of a personal experience. The description of the second, or "ulcerative," stage in his history is, I think, that which corresponds to the "hyperchlorhydria" of Dr. Hutchison and others. My point is that recurrent "hyperchlorhydria" *is* duodenal ulcer; when I operate upon the patients who bring this diagnosis with them, I find they have duodenal ulcer. Hyperchlorhydria at first was used as a term descriptive of a chemical condition; it is now debased, and is given a clinical significance. To the description of their pain given to me by patients who were shown to have duodenal ulcer I attached the term "hunger pain." Dr. Hertz and Dr. Hutchison speak of the "extreme frequency" of this symptom. I suspect that they are including under this term some, at least, of those conditions in which "acidity" (occasional or persistent) is described by the patient. In these cases the apparently increased acidity of the stomach contents is probably to be explained in this way. A lesion exists beyond the pylorus; it may be in the gall bladder; it may be a tuberculous ulceration in the intestine, an inflamed appendix, etc. It may be, that is to say, in any of the derivatives of the mid-gut. The irritation of this lesion excites a pylorospasm, which, when the abdomen is opened, may quite plainly be seen. The spasm is probably protective; the lesion in the gut desires to be shielded from the harm caused by the passing food. As a result of this spasm the food in the stomach finds a difficulty in getting through the pylorus. The demand of the food for admission to the duodenum is usually made b the excitation of an acid reflex. As the demand receives no response, it is perhaps made more imperative by an increase in the acidity, or relief may be obtained by the belching-up of bitter fluids or of gas. This is a pretty story, truly; but the work of Pawlow, Starling, and Cannon shows that every detail in it is corroborated by experimental evidence, and the clinical evidence, which is interesting, I may some day lay before you.

"Hunger pain," as I have described it in *all* its attributes, is the symptom on which a diagnosis of duodenal ulcer will be proved by operation to be correct in almost every case. The mimicry of it in the conditions I have just referred to may be close; but when the abdomen is opened, gastro-enterostomy must on no account be undertaken unless the lesion is plainly to be seen by any onlooker. This discussion will have borne good fruit if only it sounds the death knell of "symptomatic" gastro-enterostomy.—I am, etc.,

Leeds, April 19th. B. G. A. MOYNIHAN.

SIR,—Dr. Hutchison, in his letter of March 20th, gives very definite information upon the possible antecedents of duodenal ulcer. He states that recurring attacks of dyspepsia characterized by "hunger pain" mean hyperchlorhydria; when the attacks become more frequent and finally constant they denote continuous hypersecretion. This is delightfully simple, and we naturally look for equally definite directions from him of the presence of a duodenal ulcer, but in vain. He says, "in a certain number of cases unmistakable signs of duodenal ulcer appear, and the case passes into the hands of a surgeon." It is disappointing that he does not tell us what these unmistakable signs are. It is presumed by them are meant melaena or haematemesis, or both, accompanied by the tender spot beneath a rigid right upper rectus, possibly the presence of a palpable tumour, or, finally, the signs of perforation. The last named are unmistakable enough, but what of the others? Rather, of what value is their absence? The last three cases of perforated duodenal ulcer on which I have operated (all of them within the last nine months) supply the answer. I quote them not in the least by way of criticism of the diagnostic skill or care of their medical attendants, but to emphasize the fact that our surgical acquaintance with the abdomen of recent years must compel us, in many instances, to place a different interpretation on symptoms and signs which have hitherto been associated with such terms as "acid dyspepsia," "atonic dilatation," etc.

None of these patients had ever suffered from naked-eye haematemesis, or, to their knowledge, from melaena. In none of them was a palpable tumour present, although all of them were found at operation to have very large and evidently very chronic ulcers; they had all been examined and treated for years by more than one physician, and in none of them had the diagnosis of duodenal ulcer been made; one of them, a few months previous to perforation, who had been a chronic sufferer for many years, had been examined by a London physician attached to one of our largest teaching schools, and had had the definite opinion from him that he was suffering from atonic dilatation of the stomach and had no ulcer. Yet, till he perforated a few months afterwards, there was no change in his symptoms. After recovery by operation from their critical conditions all of these patients gave the history of acid dyspepsia extending over many years, and all of them had been "cured" many times. In two of them "hunger pain" had been prominent; in the third it had not. None of them up to the time of perforation had had any "unmistakable" signs of duodenal ulcer other than these. My experience does not enable me to say that every case of acid dyspepsia accompanied by "hunger pain" means duodenal ulcer, but certainly suggests that when such symptoms persist (especially in men), are rebellious to treatment, or constantly recur, they should excite the suspicion of something more than a functional dyspepsia, a suspicion that, when the abdomen is opened, will usually be ascertained to have been well founded. It should be borne in mind that perforation is no more the time of election for the cure of a gastric or duodenal ulcer than is strangulation the time of election for a radical cure of hernia. With the progress of knowledge of diseases of the gall bladder and its ducts, of the appendix, stomach, duodenum, pancreas, etc., it seems that those often vague complaints "indigestion" and "liver" are gradually but surely being elbowed out of the field. In 80 cases of operation for gastric or duodenal ulcer my margin of error has been 5 or 6 per cent.; in other words, in 6 per cent. of cases (all of them women) I have opened the abdomen expecting to find an ulcer, and have found none. Not one of these patients was the worse for the simple operation, and in fact the physicians attending them were by it placed in a far stronger and more confident position as regards their future treatment, so that in reality out of evil good came, and the clearing up of some of these cases, even at the expense of an unnecessary exploration, is not always without its advantages. However that may be, I maintain that it is better to make such a mistake occasionally than by medical treatment to go on relieving, as I have repeatedly seen, conditions which subsequent operation demonstrates conclusively were incapable of cure except by surgical means, or to diagnose a gastric or duodenal ulcer after it has perforated. I have at the present moment in hospital a patient who has been "cured" no less than six times during the last six years. I operated upon him on April 12th, and found a chronic indurated pyloric ulcer the size of a pigeon's egg, with numerous perigastric adhesions. I have not the least doubt, from an experience of many similar cases, that gastro-enterostomy will at last cure him—better late than never.—I am, etc.,

Portsmouth, April 19th. CHARLES P. CHILDE.

ANAPHYLAXIS: A PROTEST IN NOMENCLATURE.

SIR,—The more advanced a science becomes, the more exact should be the use of its terms. Few impediments to the gain of real knowledge of fact thwart our efforts to such a degree as unmeaning words; and such phrases as "dry subcrepitant râles," "hypersthenic dyspepsia," and many others, positively handicap progress; we may each have a type of condition in our minds, but there is little to guide different members in associating the same term with the same phenomenon. A new language of medicine is being built up, and the necessity of accuracy and lucidity is clear.

"Anaphylaxis" is a term lately introduced to designate the increased susceptibility to serum after the first dose when introduced under the skin or into the peritoneal cavity. If an animal receive a dose of serum, after a latent period of ten days or so certain symptoms develop. If in the next few weeks the exact same dose is repeated, then there is much shortening of the latent period, even to minutes, and, to use the eloquent phrase of Professor Symmers, "there is an acceleration of symptoms which run a tempestuous course." This is called anaphylaxis.

The word recalls to us at once the term "prophylaxis." If diphtheria threaten in a household, we give to the untouched members a dose of diphtheria antitoxin (that is, horse serum plus diphtheria antitoxin); this is as a prophylaxis. Now, if in a few weeks we repeat the same dose of the antitoxin, there does not appear to be any "anaphylaxis" as regards diphtheria—indeed, probably there is increased "prophylaxis"—but there is "anaphylaxis" as regards horse serum, which in the human subject shows itself as a shortened latent period, oedema (chiefly of face), erythematous and urticarial rashes, and fever.

We have causes of "anaphylaxis" as regards specific diseases, such as starvation, exhaustion, exposure to cold, anaemia, to mention the most evident; it is, I think, yet to be ascertained whether the same conditions induce anaphylaxis as regards serum. On the other hand, it is said that the "serous diathesis" is a condition of anaphylaxis as regards serum; whether it holds also as regards one or any or all specific affections has practically not been entertained.

I would venture to suggest that before this new term becomes stereotyped by prolonged use it should be dropped in the somewhat vague sense in which it is used, or that some adjectival word or phrase be added to show what is meant. If "serum susceptibility" be of the same nature as diminished immunity to specific poisons, then we may very well use such phrases as "serum anaphylaxis," "diphtheria anaphylaxis," but then we cannot clearly understand how "diphtheria prophylaxis" gained by the use of the ordinary commercial antitoxin, when repeated in a few weeks, involves "serum anaphylaxis," but does not involve "diphtheria anaphylaxis." The experience from typhoid and vaccine inoculations in general is against the supposition that the two susceptibilities are the same in kind, but differ in degree. It seems thus rather a retrograde inexactness of language to use "prophylaxis" for one condition, and "anaphylaxis" for the other.

A recent admirably lucid and suggestive lecture by Professor Symmers on anaphylaxis has prompted this protest.—I am, etc.,

Belfast, April 2nd. W. CALWELL.

INDIAN MILITARY INVALIDING.

SIR,—In the JOURNAL of March 6th some extracts from Mr. Haldane's statement on the Army Estimates and ratios per 1,000 from 1888 to 1907 of invalids sent home from India are quoted. For the last two of these years you give the figures respectively as 28.37 and 25.47 on an average strength of 67,406, and, comparing them with preceding years, you deduce much cause for congratulation on increased medical efficiency. Had you known the very latest figures, you could have multiplied that congratulation tenfold, and so could Mr. Haldane.

Let me explain that the invaliding season extends from October to March, so that to arrive at an estimate it is better to compare seasons than years. On this basis, then, and on the average strength given, the figures are:

1906–7	...	...	31.21
1907–8	...	...	15.8
1908–9	...	...	13.21

The actual number of invalids sent home in these three seasons was 2,105, 1,071, and 891 respectively. The strength, approximately, was some 3,000 higher than you put it, so that the ratios are even better than those quoted.

It would occupy too much of your space to explain the phenomenal decrease in the last two seasons. You will observe that we have saved rather more than a battalion in each year, and I venture to predict that in the future, and under normal conditions, the Indian invaliding will not rise above 15 per 1,000.—I am, etc.,

Bombay, March 26th. R. H. FORMAN, Colonel, P.M.O. Bo. Brigade.

RURAL DISTRICT NURSING ASSOCIATIONS.

SIR,—I have read the correspondence *re* district nurses with much interest, and think that a pamphlet entitled *A Day in the Country with a Queen's Jubilee Nurse*, issued presumably with the authority of the Queen Victoria's Jubilee Nursing Institute, fully bears out the statements of your various correspondents who have experienced the drawbacks of the system.

To those who are dissatisfied with that system may I suggest that they should endeavour to form branches of the Cottage Benefit Nursing Association, formerly known as the Holt-Ockley system? To such of them as are unacquainted with this association I may briefly say that the point of the system is that a nurse takes care of only one case at a time, residing in the house and attending to the various duties that arise in the household as well as nursing the patient, and this, I think, is of greater advantage to both doctor and patient than the butterfly visits of the district nurse. The nurses are drawn chiefly from the cottager class, trained long enough, in a special manner among the poor, to enable them to note symptoms carefully and carry out the directions of the doctor intelligently, whilst not long enough to lead them to think themselves competent to go beyond the whole duty of a nurse, and take the place of the doctor. By the central rules of the Cottage Benefit Nursing Association every branch must have at least one doctor on its committee, and the nurses must work under the orders of the doctor whose case they are nursing. I enclose a copy of the rules of a branch that has lately been formed here, which are in every essential similar to those of a large branch in the Midlands, whose rapid growth and striking success are, I believe, attributable to the policy of hearty co-operation with the doctors of the district, pursued by the secretary from its foundation fourteen years ago. At first only one doctor approved of it, but now all in the neighbourhood avail themselves of the services of its nurses when they can get them, and other branches have been and continue to be formed around it. I have personally had many of its nurses working under me, and have found them thoroughly useful, and quite competent for most medical and surgical cases.—I am, etc.,

Stradbroke, Eye, April 13th. J. A. BALL, M.B.Lond.

STRADBROKE BENEFIT NURSING ASSOCIATION,
For providing Nurses for the Sick in Country Parishes.

RULES FOR PERSONS REQUIRING A NURSE.
Price One Penny.

1.—Applications for Nurses must be made to the Committee Lady, to be transmitted by her to the Secretary. No Nurse can attend a case without an order from the Secretary or in case of emergency from the Committee Lady.

2.—Subscriptions and fees must be paid to the Committee Lady. If a subscription is in arrear the patient will be charged non-subscribers' fees. Board and Lodging for the Nurse must be provided by the patients or their family. The following is the scale of payment:—

	Yearly.	Fees per Week.
Class 1	2s.	2s.
Class 2	3s.	3s.
Class 3	5s.	5s.
Class 4	7s. 6d.	7s. 6d.
Class 5	10s.	10s.

3.—A double charge will be made for infectious cases to meet the cost of disinfection; *also when a case has lasted six weeks.*

4.—Non-subscribers may have a Nurse, if one can be spared, on condition that she leaves if the Secretary requires her. Class 1, 5s.; Class 2, 7s. 6d.; Class 3, 12s. 6d.; Class 4, 17s. 6d.; Class 5, 25s.

5.—No person will be allowed to join the Association when ill.

6.—Notice of not less than two months must be given by Subscribers when engaging a Nurse for a confinement. For Classes 1 and 2 the fee will be charged from the day the Nurse goes to the house; the other classes will be charged from the date for which the Nurse was engaged. In maternity cases no Nurse will be allowed to attend unless a Doctor has been engaged. If the Nurse is urgently needed elsewhere, the Secretary reserves the right to recall her at the end of three weeks from the date of the confinement if the patient is well enough to be left. The Association does not undertake to nurse an unmarried woman in her confinement.

7.—Should the Association be unable to supply a Nurse and the Doctor considers one essential, a sum equal to the weekly fee will be allowed to the Subscriber until the Association can procure a Nurse.

8.—Classes 3, 4, and 5 will be asked to pay or provide for the Nurses' movements within the area of the Association.

9.—When night nursing is required the Nurse shall have six hours' rest during the day, and shall be off duty one night in three; she should be allowed some daily outdoor exercise, and to attend Divine Service.

10.—Forty-eight hours' notice must be sent to the Secretary before a Nurse is sent home.

11.—When attending a cottager's wife, the Nurse will be expected to do all that is required for the care of the patient's family, except the family washing.

12.—Nurses are forbidden to receive any gratuity, and do not expect beer or spirits.

13.—In cases of emergency, such as burns or accidents, a Nurse may be sent for without applying to the Committee Lady.

For further Information apply to—

.....

The Committee Lady for this District.

SIR,—To those of your readers who have the real interest of their profession at heart, the letters of Dr. William Milligan, "Parish Doctor," and "Country Practitioner," provide pabulum for serious reflection. It must be laid down once for all that a nurse can act only under the direct supervision of a medical man. I should like to ask these ladies, Who gave them power to create an inferior order of medical practitioner? The chairman of every nursing association should be a medical man in active practice. The fact is that medical men are afraid of offending ladies who have the power of procuring patients for them, or, on the other hand, advising patients to seek the advice of another colleague. Let us be more independent. If our duty demands that we shall act in opposition to some influential person, let us act fearlessly and care not for the consequences. Let us remember that by professional ability we do not mean the capacity to please some influential person, but our success in relieving or curing disease. We may lose a little financially at the time we oppose some pet scheme, but we shall gain the respect of our quondam enemies in the long run. Cases such as are cited should be discussed at the Divisional meetings of the Division in which they occur. Then a unanimously supported motion which could not be ignored should be sent to the offending committee. If the committee refuses to act in the matter, then a nurse who knows her duties should be imported into the district who would be supported by the profession, and the laymen or laywomen would soon see that they cannot ignore our profession.

The difficulty always is that there are always black sheep in the fold who are willing to suffer any indignity if they can gain monetarily by their actions. But it is quite time that we put down in a determined manner all these abuses. Can anything be more despicable than an educated medical man allowing himself to be controlled by a committee, and allowing an abuse to arise when he can plainly see that it is degrading to the profession of which he is a member? I think that in questions such as these we might make more use of the opportunity afforded by Divisional meetings for discussing these matters, and if we were only firm and united these abuses would soon cease. Let us fear no man, nor woman, remembering that *Magna est veritas et prævalebit.*—I am, etc.,

Bedford, April 9th. S. J. ROSS.

SIR,—So far your correspondents on this subject have been those who have found associations of this description a thorn in the flesh and objectionable. Perhaps the experience of one who has found them a considerable help and almost indispensable might now be recorded.

If the standard of the Queen Victoria's Jubilee Nurses be employed, the objections mentioned by your correspondents do not exist. A Queen's nurse may only work under the direction of a medical practitioner, and in the rules of the associations with which I have been connected it is distinctly stated that a nurse may only attend on receipt of a written order from a doctor, except in cases of emergency, and then only until a doctor can be summoned.

The three years' training makes the nurses extremely useful and also less inclined to take risks on their own responsibility.

There are now many county associations which are doing their utmost to raise all district associations to this standard, and by encouraging their efforts by every means at our disposal we have an effective method of remedying the evils complained of.—I am, etc.,

Oxted, April 12th. EDWD. P. FURBER.

IN addition to the numerous letters on this subject which have been published in full, we have received several others written in a large measure from the same point of view already stated with some fullness by others; we propose, therefore, to publish certain extracts only.

One correspondent, who signs himself "A Former Victim," gives an account of his experience of a local organization in connexion with a county association; it was managed by a committee of ladies; the local doctors were *ex officio* members having the privilege of subscribing a guinea a year, and of attending the annual meeting of the committee. To make any protest at this meeting, he says, was considered a hostile act attributable to mercenary and selfish motives. Our correspondent discussed the matter with the husband of the lady who took a chief part in the movement; this gentleman was a Tariff Reformer, and keen to defend his own business from unfair competition. In reply to an observation that though the loss of income to our correspondent through the association was a matter of no importance, yet to a poor man it would be serious, and that therefore, for the sake of the profession and for those who would come after him he protested, this gentleman answered that he could not consider the profession or posterity, but must make the thing pay. The nurse, though ostensibly engaged to attend the sick poor in their own homes, attended well-to-do people who had formerly employed a nurse from a nursing association, so that it came about that any one who paid 2s. a year obtained the services of the nurse. The local organization, therefore, competed not only with the medical but also with the nursing profession. In midwifery, our correspondent adds, no pretence was made of acting under medical supervision. Artisans, coachmen's wives, and many of the middle class who formerly employed the doctor had the nurse only. When the nurse attended, it was also necessary to employ some domesticated woman to look after the house during the lying-in. All parish midwifery fees soon disappeared; parish patients were advised to obtain orders, but not to use them unless the nurse failed to manage. The district was systematically touted by an army of female canvassers for support and subscriptions; the working classes paid 2s. a year, and looked upon it as a medical club. The only redeeming feature was the nurse herself. She was an exceptionally conscientious woman. I often wondered what would have happened if many other women had been in her position. She has gone now. The association is flourishing exceedingly, and pays well; it has helped to drive two doctors out of the district, and employs two nurses, who are "such a comfort."

Another correspondent writes from the south-west of England: "Here there are two nurses run under a kind of co-operative system, one a qualified midwife; there is a large committee, all women. I am allowed to subscribe to the funds but have no voice in their affairs. Touting is freely practised. The titled lady and the parson's wife survey would-be promising cases of the small farmer's wife type, many well able to pay the guinea fee, saying: 'It is quite all right, you know. Nurse D—— is fully qualified; and, of course, if necessary you could call in the doctor if anything went wrong.' Something did go wrong a month ago. I was called at 3 a.m., during a pitiless fall of snow, about two miles out, to find a partially retained placenta easily removed. On the bed was a bulky volume on the science and art of midwifery. As I was driving off a dogcart drew up, the driver saying, 'I have come for nurse for Mrs. B.' Hearing this I re-entered the house, and proposed to attend this second case for the nurse. 'Oh, no, thanks very much,' she said; 'I'm off to it myself, and a neighbour can attend here very well now.' I may add I got 10s. and the husband's blessing."

A third correspondent, from the south-east of England, states that in his district one nurse left written prescriptions with her patients, and adds: "The Poor Law

guardians will subscribe to the nurse, but decline orders for midwifery to the district medical officer. Further, when a county nursing association was initiated, application was made that the question of remuneration to the medical men who were called in by the nurses should be considered. Needless to say, no satisfaction was obtained, and probably the matter was shelved. I finally resigned, on the ground, *inter alia*, that the association would not adopt any method to protect the nurse from attending on midwifery and infectious diseases at the same time. Moreover, it is distinctly unwise for any doctor to object to the nurse's methods, for should the association condescend to accept the doctor's word in preference to the nurse's, the only result, I apprehend, would be a reprimand for the nurse, and consequently the creation of a ceaseless enemy for the doctor. Recently a county court judge ruled that he would issue no commitment orders for rent where less than 5s. a head a week was coming into a house. Thus many a working man possessed of a wife and two children and a little cunning may practically never pay any rent at all. *A fortiori*, he need never pay the doctor."

ANTIVIVISECTION AND WOMAN SUFFRAGE.

SIR,—I notice in your article entitled "Antivivisection and Women Suffrage" that your modesty appears to preclude you from the use which I make of the word "female." What is the matter with "female suffrage" as English? "Woman" is a noun, not an adjective, and "woman suffrage" is not grammar. The Bible is good enough for me—"Male and female created He them," a text which is perhaps not inappropriate to the present controversy about female suffrage. However, while you blush at the word "female" your delicate taste does not prevent you from saying that a statement of mine is "false."

What I said at Bristol was that the inspectors were never instructed to make surprise visits, and my authority for that statement will be found at Q. 532 in the evidence before the Royal Commission, when Sir James Russell, one of the Government inspectors, was asked

> "Have you been instructed to make surprise visits?" and he replied, "Never."

If it be true that as a fact some surprise visits are paid by the inspectors, the deduction I am entitled to make is that the inspectors have a better sense in their proper duty than the Home Office, which employs and instructs them; and my authority for saying that the inspectors were instructed "not to act as detectives" will be found at Q. 530, where Sir James Russell told the Commissioners that his superior officer "expressly said that I was not expected to act as a detective." No doubt you regard the only function of the inspectors to be to act as assurances to the public that nothing illegal takes place in laboratories; but the only way that can properly be achieved is for them to be present at every severe surgical operation, and to be diligent and alert to detect any infringement of the conditions of each vivisector's certificates.

Inspectors who decline to act as detectives manifestly can easily be deceived. Vivisectors are not intended to be treated as above suspicion and as incapable of infringing the conditions imposed upon them; if they were, Parliament would no have enacted that there should be any inspectors at all.—I am, etc.,

Greywell, April 19th. STEPHEN COLERIDGE.

*** The word "female" in no way shocks the modesty which Mr. Coleridge is good enough to attribute to us. In the passage to which he alludes we took the liberty of referring to a little controversy in which he is not concerned. Would he be surprised to hear that he is not the only reader of the BRITISH MEDICAL JOURNAL? It is interesting to learn that he reads the Bible; this encourages us to hope that his scriptural studies may carry him as far as the precept, "Thou shalt not bear false witness against thy neighbour." He will thus learn, incidentally, that there is Biblical authority for the word which he thinks in bad taste. For our own part, we like to call things by their names, following in this the example of that recognized arbiter of literary taste, Boileau, who wrote:

> J'appelle un chat un chat, et Rollet un fripon.

In regard to the real point at issue, which Mr. Coleridge as usual tries to evade, we refer him to the report of his Clifton speech as published in the *Bristol Mercury* of April 3rd, the accuracy of which he has not attempted to impugn. According to that report what he said was as follows (the italics are ours):

> In the recent Royal Commission, the evidence of which was now closed, the officials from the Home Office told the Commissioners, in cross-examination, firstly, *that they never made surprise visits to laboratories;* and, secondly, in reply to the question as to what were the instructions given to them when they took office, the answer given was "not to act as detectives." It seemed to him that inspectors *who were told never to make surprise visits*, and also were specially instructed not to act as detectives, were practically inspectors appointed by the Home Office, whom they served, to be inefficient.

We showed that the inspectors stated in their evidence that their visits to laboratories were nearly always surprise visits, and that Mr. Byrne's replies showed that the Home Office took the fact that surprise visits are made for granted. Sir James Russell's statement that he had never been instructed to make surprise visits is a very different thing from Mr. Coleridge's assertion that the inspectors are told never to make surprise visits. We will not insult his intelligence by supposing that he does not appreciate the distinction; this leaves no room for any other conclusion but that his statements were made with the intention of misleading his hearers. In any case they are false. Mr. Coleridge's view that the proper function of inspectors under the Act is to act as detectives has already been dealt with, and it would be unprofitable to discuss it further.

"MEDICAL AUTOMOBILISTS."

SIR,—I see that your issue of April 17th contains an editorial note in which you cite as "apocryphal" the history of a surgical emergency described by me in an unsigned letter in the daily press. I feel sure that you will be glad, as I now enclose my name, to correct this criticism in your next issue; for although the letter was for obvious reasons unsigned, it was clearly written by a surgeon, and you will agree that it will be a subject for serious regret should the public be led by your article to suppose that a member of the profession was prepared to press home an argument by romancing upon a point of fact. Allow me, then, to repeat that, thanks to the improved methods of highway transit, I had the opportunity two or three weeks ago of opening a cerebellar abscess, and of restoring the function of respiration, within some fifteen minutes of receiving a report of the case at a distance of over four miles from the patient.

The incident was of no great surgical interest, but it served to exemplify in rather a striking manner two points which the public and the authorities find it difficult to realize. It should, I think, bring home to the lay mind the fact, well recognized by all medical men, that a delay of a few minutes such as that occasioned by the interference of the police, may easily turn the scale between life and death. Secondly, it should disabuse the public mind of the erroneous idea (of the existence of which evidence has been shown by several letters and leading articles) that one doctor will serve as well as another in any particular case, and that if the surgeon in charge is absent, any one else who happens to be present will do as well. The incident in question exemplified the fact that whereas a highly-trained and unusually able house-surgeon regarded the condition as hopeless, another surgeon of wider experience took a more sanguine view and put it to the test.

I do not consider that I should have been doing my duty either by the patient or by the house-surgeon, had I requested the latter to undertake a somewhat perilous operation, under conditions calling for unusual expedition and without previous experience of the dangers which have to be avoided.

I am confident that any member of the community whose relative was in urgent danger of death would applaud the surgeon who travelled to his assistance with all available speed. I am equally confident (and I write as one who has himself driven a motor car about the streets of London many thousands of miles without an accident) in stating that the cab which carried me on this occasion at a speed *averaging* twenty-four miles an hour never for a moment put the public to the least danger.

I should perhaps add that the semi-suburban streets were at 10 o'clock on Sunday night more or less deserted.

We all agree that the highway must not be rendered dangerous by the passage of motor cars at excessive speed; at the same time, many of us feel that public ends will be served if under special circumstances doctors' carriages are given a right of way such as that enjoyed by the vehicles of the fire brigade in this country and by ambulance carriages abroad.

Doctors are undoubtedly human, and should not be tempted to make use of a special privilege to serve their private convenience. I wish, therefore, to suggest that they should on occasions of urgency be empowered to make use of a distinctive sign, visible or audible, which will give them a right of way; that the use of this sign should in every case be reported by the police, together with the number of the car; and that the doctor should be bound to substantiate on oath the urgent character of his mission, *at a subsequent date*.

In a word, I think that the doctor should, in the interest of the public, be treated as a public servant, and that on urgent occasions his carriage should be afforded the same facilities, under the same restrictions, as those which it has always been thought politic to give to the vehicles of the fire brigade.

As your article and this letter may possibly be reviewed by writers in the public press, I will, if you please, enclose my name merely as a guarantee of good faith, and ask you to allow me to sign myself here—

April 19th. E. B. W.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Radcliffe Prize, 1909.

THE Master and Fellows of University College, upon the report of the Examiners, have awarded the Radcliffe Prize for 1909 to A. F. Hertz, D.M., Magdalen College, Assistant Physician, Guy's Hospital, for his dissertation upon the physiology and pathology of the movements of the intestines.

The College desires to call attention to a statement in the report of the Examiners to the effect that original work, in each case fully worthy of the prize, was submitted by the following candidates: A. G. Gibson, D.M., Christ Church; A. C. Inman, B.M., M.A., Wadham College. The next award of the prize will be in 1911.

Radcliffe Travelling Fellowship, 1909.

At a meeting of the Radcliffe electors, M. W. Flack, B.M., M.A., Keble College, Demonstrator in Physiology at the London Hospital, was elected to a Fellowship under the Trust, on the report of the Examiners.

Oxford Graduates' Medical Club.

The summer dinner of the club will take place on Thursday, May 20th, at the Hotel Cecil. The chair will be taken by the President, Sir W. S. Church, Bart., K.C.B., and among the guests who have accepted the club's invitation to attend are the Chancellor of the University, the Master of University College, the Rector of Lincoln College, the Provost of Queen's College, and the two University Members of Parliament.

Lectures on the History of Greek Medicine.

Six lectures on the history of Greek medicine up to the age of Hippocrates will be delivered at the Examination Schools by Joseph F. Payne, D.M., Hon. Fellow of Magdalen College, on Wednesdays and Fridays at 5.45 p.m.:

May 5th.—The Background of Greek Medicine: Oriental systems.
May 7th.—Medicine in Homer: The Cult of Asklepios.
May 12th.—Greek Lay Medicine before Hippocrates: Public physicians.
May 14th—Hippocrates and his immediate precursors: their relation to the Philosophers, etc.
May 19th.—The Hippocratic writings: more important of those now regarded as genuine.
March 21st.—The Hippocratic writings continued.

ROYAL UNIVERSITY OF IRELAND.

THE following candidates have been approved at the examination indicated:

SECOND M.B.—*S. R. Armstrong, *T. P. Davy, *N. B. Graham, B.A., *T. Hill, *J. J. Keirans, *J. J. H. Mitchell, *H. F. Moore, *M. D. Staunton, W. F. Alges, C. Barragry, D. J. Barrett, M. J. Cogan, S. H. Davison, B. Doyle, B.A., E. C. Fawcett, C. L. Gaussen, J. M. Gibson, N. C. Graham, G. S. Harvey, G. H. Hayes, E. Heffernan, G. Jackson, James Lyons, John Lyons, S. McComb, R. McCulloch, M. McGing, R. C. McMillan, I. W. Magill, E. W. Mann R. Marshall, W. Megaw, A. G. Mitchell, H. H. Mulholland, J. O'Connor, P. Purcell, J. M. Rowe, H. A. Skillen, M. Sweeney, W. M. Walker, J. R. White.

* Upper Pass.

CONJOINT BOARD IN ENGLAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE (*Part I, Chemistry; Part II, Physics*).—*G. Aspinall-Stivala, C. H. B. Avarne, M. H. Barton, †C. S. Baxter, †W. A. H. N. Bell, †J. H. Bennett, *A. C. O. Brown, *C. F. Burton, †H. Chorley, *G. Cock, G. R. Craig, *T. H. Cresswell, R. W. Davies, *H. R. Dive, †A. J. Drew, †H. Dudley, M. D. Evans, *W. T. Flooks, R. H. Gaverick, O. Hairsine, T. W. Hancock, *W. R. H. Heddy, N. Hoffmeister, †G. G. B. Holroyde, E. L. Ivens, *W. B. G. Jones, J. W. Kemp, T. R. Kenworthy, †S. H. Keys, H. H. A. Kleberg, *J. G. L'Etang, *J. Lloyd, W. K. McKay, R. T. Macrae, D. D. Malpas, B. R. Mayman, A. D. Morris, *A. G. Morris, †E. H. Morris, †H. F. Mullan, †L. E. Napier, †T. H. Oo, H. Parker, W. P. Penhale, G. S. Phillips, †G. W. Pool, *A. A. Prichard, *C. S. Ramsay-Hill, S. W. G. Ratcliff, *P. H. Rawson, *J. G. Richards, G. M. Roberts, G. D. Robertson, †C. W. Roe, H. A. Rowell, †P. Savage, *A. W. M. Sawyer, *K. V. Smith, †E. A. Sutton, C. T. Tresidder, *O. R. Unger, L. E. van Geyzel, V. C. W. Vickers, †G. H. D. Webb, †E. R. Williams, *F. H. Woods.

FIRST COLLEGE (*Part III, Elementary Biology*).—H. L. Addison, A. D. Anderson, C. H. B. Avarne, J. D. Bangay, M. H. Barton, S. S. Beare, E. A. Brock, F. H. Cleveland, G. M. Coope, R. W. Davies, E. R. Dermer, C. K. G. Dick, H. R. Dive, A. J. Drew, S. E. Elphick, C. L. Emmerson, G. F. Fawn, L. E. Forster, J. W. Gilbert, T. S. Greenaway, E. W. Griffith, H. Gwynne-Jones, R. J. Harley-Mason, R. B. Hick, F. T. Hill, G. G. Jack, R. B. Johnson, J. W. Kemp, J. Kinnear, J. G. L'Etang, W. D. McDonald, D. A. S. McGregor, W. K. McKay, K. H. McMillen, O. G. Maginness, D. D. Malpas, C. J. D. May, A. D. Morris, J. Neal, H. Parker, W. P. Penhale, G. S. Phillips, I. Rashad, G. M. Roberts, J. A. Robinson, C. W. Roe, H. A. Rowell, P. Savage, S. Simons, C. R. Smith, K. V. Smith, H. G. Sparrow, W. A. Stewart, W. V. T. Styles, E. A. Sutton, H. J. H. Symons, A. H. Taymour, T. H. Thomas, M. L. Treston, A. R. Upton, L. E. van Geyzel, G. H. D. Webb, K. G. Wee, T. C. Williams, F. H. Woods, A. K. S. Wyborn.

SECOND COLLEGE (*Anatomy and Physiology*).—G. Aldridge, T. S. Allen, C. V. Anderson, C. N. Atlee, H. F. Barge, W. R. Barlow, T. B. Batchelor, E. C. Bowden, R. E. R. Burn, T. C. Butler, A. J. Clarke, T. Clarke, C. F. Constant, H. G. Crawford, J. H. C. Davis, A. E. L. Devonald, W. E. S. Digby, J. C. Ellis, A. G. T. Fisher, C. M. Forster, P. W. Green, F. Guevara-Rojas, G. Hadfield, T. L. Hardy, E. R. Hart, H. Harvey, J. R. Hayman, E. H. Heaton, R. H. Hodges, B. W. Howell, A. E. Huxtable, W. S. Hyde, J. C. Jefferson, S. Lal, M. Mackenzie, M. D. Mackenzie, F. C. Newman, C. J. Nicholson, B. N. Norman, J. F. O'Connell, W. G. Orchard, J. B. Patel, C. L. Pattison, C. J. H. Pearson, G. H. Pearson, J. Pinder, C. H. G. Pochin, T. W. W. Powell, R. C. Poyser, R. F. Quinton, E. G. Reeve, C. G. Reinhardt, E. U. Russell, A. Sabri, W. R. Sadler, H. K. V. Soltau, W. Steuart, H. Stott, W. E. Tanner, J. Taylor, K. S. Thakur, V. Vesselovsky, V. D. C. Wakeford, P. J. Watkin, J. R. D. Webb, C. G. Whorlow.

* Part I only. † Part II only.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

ELECTION OF EXAMINERS.

A MEETING of Fellows will be held on Tuesday, May 4th, at 4.30 p.m., pursuant to the provisions of the supplemental charter, to witness the election of Examiners.

The candidates will be chosen to serve on the following Courts: Conjoint Licence, Diploma in Public Health, Preliminary, Fellowship, Licence in Surgery (for registered practitioners), Licence in Midwifery (for registered practitioners), and Licence in Dental Surgery.

Candidates are requested to lodge their applications in writing with the Registrar, at the College, on or before Tuesday, April 27th, at 10 a.m.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examination indicated:

FIRST PROFESSIONAL.—* J. P. English, J. G. Atkins, J. B. Barry, W. D. Beamish, J. Cockburn, J. T. Dier, L. C. Dillon-Kelly, J. J. Elliott, D. J. Healy, D. Leahy, J. S. Levis, J. D. MacCormack, D. A. MacErlean, F. Murray, M. Murphy, J. A. O'Driscoll, T. J. O'Riordan, A. F. I. Patterson, A. T. Rhatigan, T. S. Smith.

* Honours.

LONDON SCHOOL OF TROPICAL MEDICINE.

MEDICAL ZOOLOGY.

ARRANGEMENTS have been made for the holding of advanced courses in Protozoology, Arthropodology, and Helminthology three times a year. The subjects will be taken by the following lecturers: *General Medical Zoology*, Colonel A. Alcock, I.M.S.; *Protozoology*, Dr. C. M. Wenyon; *Arthropodology*, Colonel A. Alcock, I.M.S.; *Helminthology*, Dr. R. T. Leiper. The courses in the order indicated will commence in the first, fourth, seventh, and tenth week of each of the three annual sessions of the school. Students will be allowed to attend the lectures on all the subjects or to devote the whole session to one of them. The lecturers will give a practical character to the courses throughout, the object being to train those attending them sufficiently to enable them to pursue unassisted investigations abroad or elsewhere.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved at the examinations indicated:

PRIMARY, PART I (*Biology*).—J. F. Bourke, P. R. Cross, J. E. Kitchen, L. F. Pain, H. E. Rose.

Chemistry.—J. F. Bourke, P. R. Cross, J. E. Kitchen, W. A. Oaten, H. G. Steel.

Materia Medica and Pharmacy.—P. R. Cross, F. I. G. Hunter, R. E. Laurent.

PRIMARY, PART II (*Anatomy*).—H. Cox, H. N. Eccles, C. de C. W. Langdon, P. J. Montgomery, F. G. Norbury, H. Rimington, R. A. Robinson.

Physiology.—H. Cox, L. S. Daly, P. J. Montgomery, F. G. Norbury, H. Rimington, R. A. Robinson.

Medico-Legal.

CHRISTIAN SCIENCE.

An inquiry into the death of a lady who was living with a family of Christian Scientists and was attended by a practitioner of that persuasion was concluded at Sutton on April 15th. The jury brought in a verdict to the effect that she died of phthisis and that there was no criminal neglect, the people with whom she was staying having done their best according to their belief. To their verdict the jury added the following rider: "We are of opinion that had the deceased received proper medical advice instead of trusting to Christian Science treatment her life might have been considerably prolonged."

The evidence showed that the deceased had been suffering from phthisis for some years, and until January, 1908, was under ordinary medical care. About that time she became a Christian Scientist, and, after receiving Christian Science treatment for some time in her own home, moved to Sutton. There she died about three weeks later, while still under the same form of treatment. The master of the house in which she died produced a letter from the deceased, which stated that she was at Sutton by her own request and wish, and at no one's solicitation; that she had been tenderly and carefully nursed by the lady of the house since the date of her arrival, March 8th, and without reward or remuneration, except that brought by good actions; and that when she came the master of the house proposed to call in a doctor, but she objected. The lady of the house said the deceased had told her that if things came to the worst she was to call in a doctor to save trouble.

Evidence respecting the case was given by three medical men. Dr. Hooper of Sutton stated that he was asked to visit the deceased on March 18th, and on arrival was informed in answer to his inquiries that he had been sent for in order that those responsible might keep within the law. He replied that if that was the only object in sending for him they had sent for the wrong man. He found the patient's condition desperate, and hence directed that the doctor who last attended her should be summoned. Eventually he made a *post-mortem* examination. He had never seen a body so much wasted, and its condition convinced him that the feeding of the patient had been improper. The patient should have had a nurse. He had no doubt at all that, with proper care and treatment, her life would have been prolonged, possibly for years.

Dr. Bellamy of Kew, in whose hands the case originally was, said he had not seen the patient between January, 1908, and March 19th, 1909, when he was called in, and found her practically dying. If in the interval she had had proper medical treatment her life would certainly have been prolonged, and perhaps for many years. From her surroundings he saw that the patient was not having proper attention. The owners of the house told him that there was no such thing as pain and no such thing as death. He never argued with Christian Scientists because he knew it was useless, but warned the master and mistress of this house that the patient was likely to die in a few days, in which case there was likely to be trouble. On their replying that they had called in a doctor, he informed them that they would nevertheless have to get a death certificate, and that no doctor ought to give one. He himself would not give one.

Dr. F. S. Toogood of Lewisham Infirmary said he had not seen the deceased during her life but had been present at the *post-mortem* examination. He found no evidence of insufficient nursing but would not say that the food given was suitable.

The Christian Science practitioner in whose charge she was when she died said he had only seen her once after her arrival at Sutton. He treated cases daily, and charged for them. The treatment consisted not in physical measures but in prayers; God did the healing. He had no knowledge of disease, but God had. He had not failed in his treatment because he could not fail. It was not due to failure of treatment that the patient died, but to some other cause. If he explained what that cause was it would not help.

MEDDLESOME FRIENDS.

At an inquest in Marylebone on April 20th Dr. Danford Thomas, the coroner, took an opportunity of throwing into relief by his questions and observations the folly of the parents or other relatives of a patient interfering with the treatment of the medical man in whose care the patient is. The case was one in which an inquest was held owing to no medical certificate being obtainable. A medical man had been in attendance for some five weeks, but had refused to attend any longer because the parents of the child, owing to the interference of friends, neglected to carry out his instructions, and did other things which they ought not to have done. Another medical man was summoned, but did not arrive until after the child was dead. In view of the possibility of a question being raised as to the correctness of the treatment, the coroner in this case called upon a special pathologist, Dr. Spilsbury of St. Mary's Hospital, to make the *post-mortem* examination. His evidence was to the effect that the child died of bronchopneumonia, and that the medicine which had been prescribed by the medical man in attendance was of a kind suitable to the case.

STATUS LYMPHATICUS.

An inquiry was held by the Coroner of the City of London on April 19th on the body of a child, aged 5, which died at St. Bartholomew's Hospital shortly after the cessation of the administration of chloroform. Evidence as to the cause of death was given by Dr. Spilsbury, Pathologist to St. Mary's Hospital, who stated that the child was suffering from status lymphaticus, a condition in which death from sudden cardiac failure was peculiarly liable to be brought about by any depressing cause. The jury found that the child died from syncope while partially under the influence of chloroform, and suffering from status lymphaticus, after undergoing an operation skilfully performed.

MEDICAL REGISTRATION IN AUSTRALASIA.

Antipode.—(1) The M.D. degree of the University of Louisville, Kentucky, U.S.A., is not registrable in the United Kingdom. (2) Registration in a Colony gives in itself no right of admission to the *Medical Register* of the United Kingdom, but the degrees of most Colonial universities are registrable here. (3) According to the report on unqualified practice issued by the General Medical Council last year, the legal qualification to practise medicine and surgery in New South Wales is registration by the Medical Board of the Colony, and this is granted to any person who proves to the satisfaction of the Medical Board that he is a Doctor or Bachelor of Medicine of "some university," that he has passed through a regular course of medical study of not less than five years' duration in a school of medicine, and that he has received a degree which entitles him to practise in the country where it was obtained. This last condition checks the registration of persons possessing such degrees as our correspondent describes, but when the law was passed in 1898 exemptions were made in favour of practitioners who had passed through a due course of study at a recognized school of medicine and surgery, and had practised in a reputable manner in New South Wales during the five years previous to the passing of the Act; these exemptions were in accordance with the precedents established in this country when the Medical Acts were passed.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

SUPERSESSION.

T. K.—In the circumstances mentioned the choice of the medical attendant should rest with the patient, who cannot be compelled to accept the services of the practitioner to whom he had in the first instance applied; but if the patient had wished Dr. A. to attend, Dr. B. would have had no just cause of complaint although he was the first to see the case.

The Services.

ROYAL ARMY MEDICAL CORPS (TERRITORIAL).

Officers Available on Mobilization.

M. I. T. S.—In the event of the Territorial Force being mobilized the medical officers, whether "available on mobilization" (formerly called *à la suite*) or otherwise, would serve in the rank stated in the *Army List*, and take precedence and draw pay and allowances accordingly. The only officers with the rank of Colonel are the administrative officers of divisions. No demands are made on the time of officers "available on mobilization" during peace. In organizing for the first time the staff of officers "available on mobilization" it has been necessary to give the seniors high rank at once, but in future it is, we believe, intended that they shall be appointed and promoted as those on other lists. It is very unlikely that an officer changing from one unit to another would be reduced in rank. In all cases a Major would take precedence of a Captain.

East Anglian Division.

A very interesting and successful function took place in Cambridge on Wednesday, April 7th.

Colonel Howard Marsh (Master of Downing College), the Honorary Colonel of the East Anglian Division R.A.M.C.(T.), issued invitations to all the medical officers in the Division to a dinner in the Hall of Downing College. Thirty-five officers accepted, and were present at the dinner, most of whom spent the night in Cambridge, either with private hosts or in the College itself.

After the loyal toast had been proposed from the Chair, and duly honoured, a most instructive and interesting after-dinner speech was made by Colonel Macpherson, R.A.M.C., who dealt in a most clear and able manner with the whole of the organization of the medical department of the Auxiliary Forces, from the base to the firing line, including such important points as treatment at the front, transport, rest hospitals, general hospitals, and nursing. He alluded to several matters at present under consideration, including the fee for examination of

recruits, equipment of units, etc., and contrasted our system with that obtaining in some Continental armies. He also dealt at length with the sanitary side of the service, and ended with an earnest appeal to those present to do their best to bring about the success of the scheme.

An interesting discussion took place after the address, many questions being asked and answered by Colonel Macpherson.

A vote of thanks to the speaker of the evening was proposed by Lieutenant-Colonel Sims Woodhead and seconded by Colonel Lyon, V.D., Cambridgeshire Regiment.

Among those present were Colonel G. S. Elliston, A.M.O., East Anglian Division; Major Freeman, R.A.M.C.; Lieutenant-Colonel Griffiths, R.A.M.C.(T.), commanding the 1st East Anglian General Hospital; Lieutenant-Colonel Bradbury, Lieutenant-Colonel Wherry, Lieutenant-Colonel Deighton, Lieutenant-Colonel S. Hoyland, and Lieutenant-Colonel Bindloss.

Public Health AND POOR-LAW MEDICAL SERVICES.

HOUSING, TOWN PLANNING, ETC., BILL.

THE general scope of Mr. Burns's bill to amend the law relating to the housing of the working classes, to provide for the making of town planning schemes, to make further provision with respect to the appointment and duties of county medical officers of health, and to provide for the establishment of public health and housing committees of county councils, was indicated in the report of the second reading discussion published in the JOURNAL of April 10th, p. 921, but a few additional details may usefully be given. It consists of three parts:

Part I contains chiefly a number of amendments of procedure of the Act of 1890, strengthening the powers of local authorities to deal with dwellings unfit for human habitation, and in particular requiring the establishment by every local authority of a quinquennial survey and register of housing accommodation for the working classes within the area administered by the authority. Another important provision in this portion of the bill is the exemption of lodging-houses for the working classes from inhabited house duty and the total prohibition of back-to-back houses.

Part II deals with town planning, and not only gives powers to local authorities to make schemes for the laying out of land in their neighbourhood but also has provisions to compel a local authority to make or execute a town-planning scheme where one ought to be made, or where one proposed by owners of any land ought to be adopted; the provisions of this part of the bill seem calculated to effect great improvements in the present condition of affairs.

Part III is particularly interesting to the medical profession because it deals with county medical officers. The first section obliges every county council to appoint a medical officer of health, while subsection 3 prohibits part-time appointments in future. Subsection 5 enacts that a medical officer of health of a county shall be removable by the county council with the consent of the Local Government Board and not otherwise, and subsection 6 provides that a medical officer of health of a county shall not be appointed for a limited period only. These two sections, if they become law, will give permanency to the positions of medical officers of health. The bill also provides that a county medical officer of health will not be allowed to engage in private practice or to hold any other appointment. Clerks and medical officers of health of district councils are required by section 68 to supply county medical officers of health with any information which it is in their power to give, and which the medical officer of health for the county may reasonably require for the purpose of his duties. Section 70 compels every county council to establish a public health and housing committee to which shall stand referred all matters relating to the exercise and performance by the council of its powers and duties as respects public health and the housing of the working classes, but the London County Council is exempted from the application of this section. Section 71 permits county councils to promote the formation and extension of building societies having for their object the erection or improvement of dwellings for the working classes, and to assist such societies by making grants or advances or guarantee advances; the councils are given power to borrow money for these purposes.

OLD AGE PENSIONS AND RELIEF IN POOR LAW INFIRMARIES.

A CIRCULAR dated April 16th, issued by the Local Government Board to local pension committees and subcommittees, contains the following paragraph:

"The Board may also take this opportunity of stating the view on which they have acted in deciding appeals made to them in cases where the claimant has been an inmate of a Poor Law infirmary. The question whether maintenance in the infirmary comes within the provisions of Section 3 (1) (a) (i) or (iii) of the Old Age Pensions Act appears to them to depend upon the circumstances of the particular case. It is somewhat difficult to lay down exact rules for such cases, but the Board's view is, generally, that if a person suffering from an illness or an accident has been received in a Poor Law Infirmary for cure or treatment, he is not thereby disqualified, such relief as he obtained other than surgical or medical assistance, being merely incidental to such assistance. If, however, he became a chronic inmate of the infirmary the medical character of the relief would cease to preponderate and disqualification would ensue. The same principles apply in the case of an inmate of the sick wards of a workhouse, the actual place where the poor person is located being of less importance than the nature of the relief afforded to him."

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DR. DRINKWATER (Wrexham) desires to hear of a home where a girl, aged 19, suffering from chlorosis and just recovered from phlegmasia alba dolens of both legs, would be admitted.

FETID BREATH.

HEALTH OFFICER asks for information as to the usual cause of fetid breath apart from such well-known conditions as dyspepsia, dental caries, and ozaena.

*** The probable cause of foul breath under the conditions named is slight catarrh of the cavity of the mouth, nose, or pharynx, associated with the presence of various aërobic bacteria, such as *B. mesentericus*, *B. pyogenes foetidus*, *B. lactis aërogenes*, *B. proteus fluorescens* and *septicus*, or with some less definitely known anaërobic organisms, but we know of no medical book in which these relations are discussed.

INCOME TAX.

E. M. C. asks whether the surveyor of taxes is within his legal right in demanding from him accounts for the years 1905, 1906, 1907, and 1908, and also whether he is correct in stating that no deduction can be made for the cost of additions to a practitioner's stock of instruments.

*** The surveyor has no direct power to demand accounts. His functions, however, include the verification of the amounts returned by taxpayers for assessment, and it is doubtless in this connexion that accounts have been asked for. Our correspondent may refuse to furnish the accounts at this stage; but in that event the Commissioners would probably decline to accept his return, and would make an estimated assessment upon him in any amount they thought fit. In order to obtain a reduction of this assessment accounts would have to be produced, and therefore it is simpler for all parties if accounts are sent to the surveyor in accordance with his request. The cost of additional instruments is regarded as an outlay of capital, for which no deduction is allowed under the Income Tax Acts. This view is obviously open to criticism, but it is to be feared that individual protests are not likely to receive much consideration.

ANSWERS.

PRACTITIONER.—(1) A good anatomical atlas for use by a person who cannot attend a dissecting room is *The Edinburgh Stereoscopic Atlas of Anatomy*, edited by David Waterston. (Edinburgh: T. C. and E. C. Jack.) (2) A good articulated skeleton costs about £8. Price lists can be obtained from Messrs. Millikin and Lawley, 165, Strand, London, and M. Tramond, 9, Rue de l'École de Médecine, Paris. (3) Gould's *Illustrated Dictionary of Medicine, Biology and Allied Sciences*, 1900, 40s., and Gould's *Dictionary of New Medical Terms*, 1905, 21s. (London: Baillière, Tindall and Cox), are good modern dictionaries of medicine and surgery.

Suicidal Tendencies.

G. P. W.—A satisfactory opinion could only be given after an examination of the patient. She may be a mental degenerate with a bad family history, or she may have had a decided attack of melancholia. She should be carefully examined to see whether her condition is such that she can be certified and placed in the county asylum. If there is any recurrence of the suicidal attempt, it might be a good thing to bring her before a magistrate, because the appearance in court is often of great advantage in hysterical cases by inducing more self-control. If the girl is not pregnant, there would seem to be even now some evidence of delusion; if she is pregnant, the case is probably one of melancholia of pregnancy, and she should be placed in an asylum, unless she has friends who will take her and be responsible for her safety. It does not appear that there are any homes or institutions which undertake cases of this description. Patients of this kind are always uncertain, and it is very risky to keep them as servants in families. She requires protection until her general health is re-established, and apparently this can only be obtained by her own friends or in some curative establishment. No hospital would be likely to undertake the case. There is no statement as to whether some small money payment could be made with the girl. If she could pay a little, it might be advisable, should it be impossible to place her under certificates, to apply at the Handford Home for Feeble-minded Girls. Apply to Miss Jeffries, St. Helen's Lodge, Ipswich, or to the Secretary, National Association for the Feeble-minded, Denison House, 296, Vauxhall Road, S.W.; terms, 10s. a week.

Practice in Canada.

M.D.—(1) In British Columbia a medical man can obtain registration on the strength of qualifications derived from Great Britain or Ireland only if he was registered in Great Britain or Ireland previous to June 30th, 1887, otherwise he must undergo an examination. There is a fee for registration which "must not exceed 100 dollars." Application for registration should be made to the Registrar of the Medical Council, Victoria, British Columbia. (2) In Manitoba the most recent Medical Act appears to make it permissible to admit to the *Register* any practitioner holding a qualification entitling him to registration in Great Britain or Ireland; but as there is some obscurity in the wording of the Act, inquiry should be directed to the Registrar of the College of Physicians and Surgeons, Winnipeg, Manitoba. (3) In Alberta a medical man desiring to obtain admission to the *Register* on the strength of qualifications derived from Great Britain or Ireland must, according to the Medical Act of the province, pass an examination "touching his fitness and capacity to practise medicine, surgery, and midwifery." The examination fee is 50 dollars, in addition to a registration fee of the same amount. The registration authority is the College of Physicians and Surgeons, Edmonton, Alberta. (4) In Saskatchewan the regulations are on all-fours with those of Alberta, the registration authority being the College of Physicians and Surgeons, Regina, Saskatchewan. (5) In each case a statement of the candidate's qualifications and their dates should be submitted to the registrar of the authority in question, and precise information obtained as to the requirements he will have to fulfil. (6) In the older towns hospitals are staffed much as they are in England, but elsewhere they are sometimes administered in the same fashion as are cottage hospitals in this country. There is no one rule, and the conditions which will have to be dealt with in this respect are only determinable when the choice of a new home has been finally made. (7) There are plenty of medical men in all parts of Canada making incomes of the amount stated—namely, £500 to £1,000 per annum. Relatively these sums represent in most parts of Canada a somewhat smaller income than they would in this country, and whether any individual medical man proceeding from England could make either of them, even if "a fair surgeon" is a purely personal question. There are a good many medical schools in Canada, and these annually turn out a large number of excellently qualified medical men; nevertheless, the population is rapidly growing, and there is doubtless room for immigrant medical men of real ability and industry and possessed of sufficient capital to support themselves while making a position. In itself, however, the holding of a British qualification is no special advantage, and a practitioner born and bred in these islands would have to become socially acclimatized before he found himself on equal terms with his Canadian-born competitors.

LETTERS, NOTES, ETC.

Jews and Alcoholism.

Dr. C. F. Marshall (London, N.W.) writes: In your article on this subject in the British Medical Journal of April 17th, it is stated that "alcoholism occupies the first place as the causative influence of insanity." This statement is open to contradiction, for the researches of Mott and others show that the first place should be given to syphilis. If it is true, as stated in your article, that degeneration of the nervous system and insanity are more common among the Jews than other races: this tends to indicate that the alleged rarity of syphilis among the Jews has been exaggerated.

The London University and College Question.

Dr. H. Elliot Blake (Bognor), in the course of a long letter on this subject, writes: In the latest discussion of this question to again descend to the arena of alternatives is unnecessary. Dr. Mercier has yet one other solution—that of registering an M.D. for the collegiate licences by the aid of a special charter; but I fail to see how it applies to the last year's determinations to readjust the university and to hold a Royal Commission, which produced the College Committee of Inquiry. However, through a complex division of doubts he admits the difficulty of avoiding this much-talked-of exchange of title to an M.D. for the diplomates. What will be appreciated by Members is his recognition, as one of our leaders, of the justice of the Members' claim to be considered on a parity with their university or "provincial *confrères*." But, as to the new solution, a new charter would simply retain the tattered pall and fenestrating furbishings of a decadent past and the continued ill-working of the collegiate system.

The difficulty Dr. Mercier quotes of the apparent stumbling-block of adapting the matriculation is not insurmountable, if only the half measure of adaptation be dropped and the necessity for a change be acknowledged. Thus, by accepting the existing colleges' preliminaries for, say, one or two years, and then introducing any agreed upon level for all acceptable preliminaries, that question would be solved. If a further arts course were required, at a future time, the university could well provide for it.

The colleges have been found fault with for splitting their own new committee's purpose and leaving action to be taken by the Royal Commission. I do not hold with such convenience or expediency, and think that the committee of the colleges should not abate one iota of their previous intention of entering into direct negotiations for any compact of agreement that may be decided upon with the University of London and with the authorities alone concerned on both sides. They are strong enough in the foundation of this reform, they have a practical senate as the only legal executive to deal with, and the medical faculty and other leaders are not at all adverse to treating them favourably. They should not forego the advantage of position after so long and strenuous fight. If the Royal Commission ratifies these agreements all the better.

[The remainder of Dr. Blake's letter deals with matters affecting the internal economy of the University of London, which we venture to think more suitable for discussion before the Royal Commission than in these columns.]

Treatment of Ringworm in School Children.

Dr. Horace Manders (London, W.) writes: As Dr. Galbraith (British Medical Journal, April 17th, p. 988) has asked help from the experience of others to clear up the doubts and difficulties under which he labours, I can refer him to the last report of the East London Hospital for Children. We do not claim anything marvellous, but we can show most excellent results by means of *x* rays. In the large-spored variety the cure is speedy; sometimes the small-spored variety gives a good deal of trouble. I may add that a great deal depends upon the general health of the individual children. I cannot call to mind any case that has not eventually become cured, neither have I seen any deleterious action upon the skin. I shall be very pleased to show him cases under treatment at any convenient time, and demonstrate the technique. Unless the latter is understood, and the treatment retained in the hands of those who have been trained to the work and duly qualified to interpret symptoms, serious mischief is bound to occur. Under proper conditions, on the other hand, my experience is that no other treatment can approach that of *x* rays in efficacy and in shortness of time. Our average number of sittings for each case at the East London Hospital is between six and seven.

"Antivivisection and the Poor."

A Disgusted Radical writes: It is a remarkable but depressing fact that the *Daily Chronicle*, which I for one have been accustomed hitherto to consider as the representative of sane Radicalism, should on a single page to-day contain a panegyric of homoeopathy, by one of its leading practitioners; a ridiculous statement about the nourishing properties of spinach, in a letter by a correspondent of some social standing; and a still more preposterous glorification of Edwin Chadwick, at the expense of Edward Jenner, as the exterminator of small-pox, in another letter by a correspondent who also occupies some position in the commercial world. How can we wonder at the readers of newspapers falling victims to such misleading nonsense, when editors find it consistent with their sense of responsibility to give a place to it in their columns?

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